

**Paramount Boulevard/
Imperial Highway Intersection
Improvement Project**

**Initial Study/
Mitigated Negative Declaration**

April 2020

Lead Agency:

City of Downey
11111 Brookshire Avenue
Downey, CA 91790

Prepared by:

Hodge & Associates
45-300 Portola Avenue, #2842
Palm Desert, CA 92261

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**CEQA Appendix G:
Environmental Checklist Form**

1. Project Title:

Paramount Boulevard/Imperial Highway Intersection Improvement Project
2. Lead Agency Name and Address:

City of Downey
1111 Brookshire Avenue
Downey, CA 91790
3. Contact Person and Phone Number:

Staff Contact: Edwin Norris, PE
Public Works Division, Planning Division
Phone Number: (626) 939-8425
4. Project Location:

Paramount Boulevard/Imperial Highway Intersection
Downey, CA 91791
5. Project Sponsor's Name and Address:

City of Downey
1111 Brookshire Avenue
Downey, CA 91790
6. General Plan Designation:

Public Right of Way; surrounding properties have a land use designation of General Commercial.
7. Zoning:

Public Right of Way; surrounding properties are General Commercial.
8. Description of the project:

The Paramount Boulevard and Imperial Highway Intersection Project calls for a re-design of the intersection to accommodate anticipated growth in traffic through 2035. Dual left turn pockets will be added in the southbound direction along Paramount Boulevard and in the westbound direction along Imperial Highway. All four legs of the intersection will be widened to provide sufficient road width for vehicular U-turn movements. The Project includes reconstruction of all four legs of the intersection with concrete pavement for 300 feet on all approaches and 100 feet for all departures. The intersection itself will be reconstructed with concrete pavement, and decorative concrete crosswalks will be added along with modified traffic signals and striping, signing, and pavement markings, street lighting, and upgraded bus shelters and furnishings. Partial right of way acquisition will be required along Imperial Highway and Paramount Boulevard on all four legs of the intersection. Some utility relocations and adjustments will be required to facilitate Project construction.
9. Surrounding Land Uses and Setting:

The site is located in the southwestern portion of the City of Downey north of Interstate 105 (I-105) and east of Interstate 710 (I-710). The Project site involves the intersection of Paramount Boulevard and Imperial Highway. The west side of the Project area includes commercial uses and

parking lots that front Imperial Highway. The east side of the Project area includes a stretch of commercial buildings and parking that line Imperial Highway. There are commercial facilities and condos and apartment buildings north of the intersection along Paramount Boulevard.

Commercial buildings also front Paramount Boulevard to the south of the intersection along with several single-family residences at the south end of Project limits.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

None

Other reviewing agencies may include, but are not limited to:

- South Coast Air Quality Management District
- Los Angeles County Regional Water Quality Control Board

11. Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code §21080.3.1? If so, has consultation begun?

Yes, and consultation has been completed.

Primary sources referenced in the preparation of this Initial Study:

1. City of Downey, Vision 2025 General Plan
2. City of Downey Water Quality Report, 2018
3. City of Downey, Downey Vision 2025 Comprehensive General Plan Update DEIR and FEIR, 2004
4. Zoning Map, City of Downey
5. Downey Municipal Code
6. California Environmental Quality Act as amended January 1, 2019. §§21000-21189 of the Public Resources Code, State of California
7. Guidelines for California Environmental Quality Act as amended January 1, 2019. §15000-15387 of the California Code of Regulations, Title 14, Chapter 3, State of California
8. Phase 1 Archeological Assessment for Imperial Highway and Paramount Boulevard Intersection Improvements Project, City of Downey – Archeological Resources Management Corporation, December 9, 2019.
9. Air Quality and GHG Impact Analysis for Downey Intersection of Imperial Highway and Paramount Boulevard Intersection Improvement Project dated January 24, 2020 prepared by Giroux and Associates
10. Noise Impact Analysis for Downey Intersection of Imperial Highway and Paramount Boulevard Improvement Project dated January 24, 2020 prepared by Giroux and Associates
11. <https://geotracker.waterboards.ca.gov/>

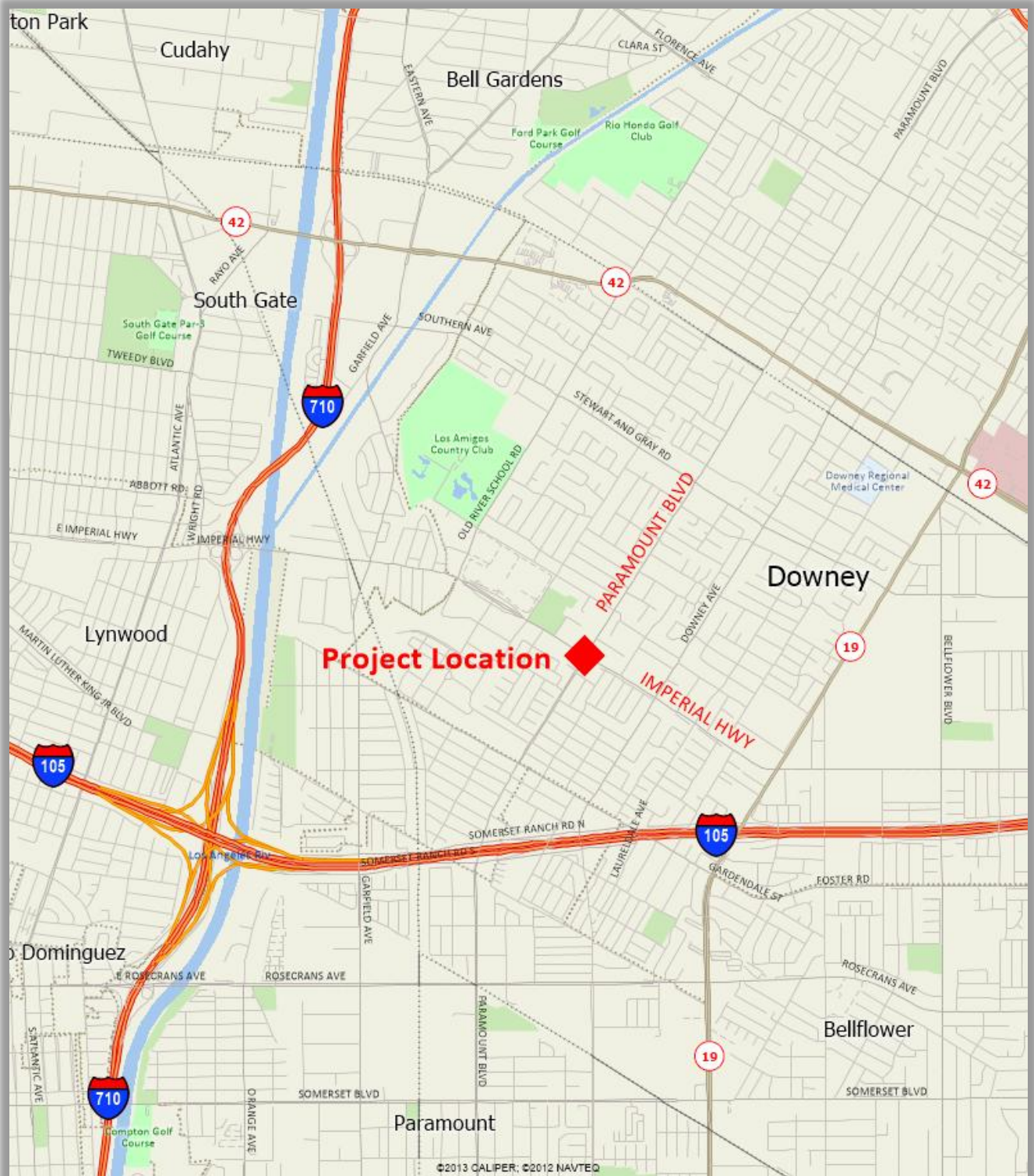


Exhibit 1 – Regional Location Map

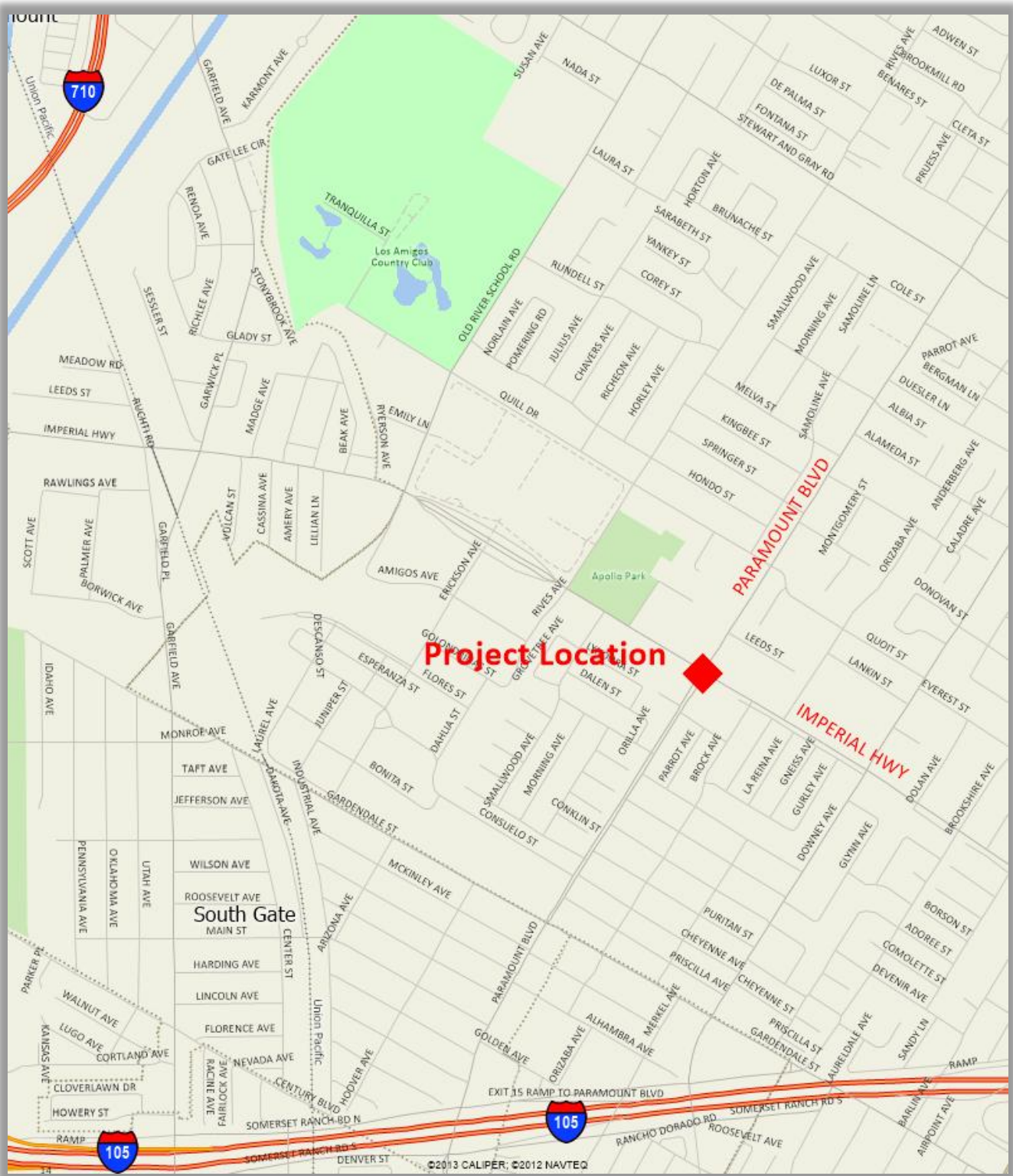


Exhibit 2 – Project Vicinity Map

Environmental Factors Potentially Affected

The environmental factors checked below would potentially be affected by this Project, involving at least one impact that is a "Potentially Significant Impact" or "Less Than Significant With Mitigation Incorporated," as indicated by the checklist on the following pages.

	Aesthetics		Mineral Resources
	Agriculture and Forestry Resources		Noise
✓	Air Quality		Population and Housing
	Biological Resources		Public Services
	Cultural Resources		Recreation
	Geology and Soils		Transportation/Traffic
	Greenhouse Gas Emissions		Tribal Cultural Resources
✓	Hazards and Hazardous Materials		Utilities and Service Systems
✓	Hydrology and Water Quality		Mandatory Findings of Significance
	Land Use and Planning		

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	<input type="checkbox"/>
I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	<input checked="" type="checkbox"/>
I find that the proposed Project MAY have a significant effect on the environment, and ENVIRONMENTAL IMPACT REPORT is required.	<input type="checkbox"/>
I find that the proposed Project MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	<input type="checkbox"/>
I find that although the proposed Project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.	<input type="checkbox"/>

Submitted by: City of Downey

Prepared by:

Signature

Date

Evaluation of Environmental Impacts:

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
 - a) the significance criteria or threshold, if any, used to evaluate each question; and
 - b) the mitigation measure identified, if any, to reduce the impact to less than significance

I. Aesthetics

The City of Downey is a community located in southeast Los Angeles County. The neighborhood where the Project is located contains primarily commercial uses and residential condos and apartments along Paramount Boulevard and Imperial Highway in the City. Interstate 105 (I-105) and Interstate 710 (I-710) are the nearest highways to the Project, with Interstate 605 (I-605) nearby to the east. Views from the freeways would not be impacted by the Project. The topography of the Project area is flat.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Paramount Boulevard/Imperial Highway Intersection Improvement Project is designed to improve the intersection and the roadway within 300 feet of approach ends and 100 feet of departure ends. The Project is designed to accommodate anticipated growth by adding dual left turn pockets in the southbound direction along Paramount Boulevard and in the westbound direction along Imperial Highway. All four legs of the intersection will be widened to provide sufficient road width for vehicular U-turn movements. No scenic vistas are impacted by the Project, because it consists primarily of street-level improvements. Therefore, there will be no impacts to any scenic vista.
- b) **No Impact.** The Project is not located within a state scenic highway. The I-710 and I-105 freeways are located west and south of the Project site, but they are not designated as state scenic highways. The Project will not affect scenic resources. Therefore, there will be no impact to scenic resources within a state scenic highway.
- c) **No Impact.** The Project is intended to improve the intersection to allow smoother traffic flow through the area, upgrade bus shelters, and add decorative concrete crosswalks. The Project will slightly impact adjacent uses through partial right of way acquisition, but will not alter the existing visual character or quality of the surrounding uses. There will be no negative impacts on the existing visual character or quality of the site and its surroundings.
- d) **No Impact.** The Project is designed to improve the intersection and accommodate anticipated growth. Lighting in the area will be upgraded but will not add a new source of substantial light to the area. Therefore, no new source of lighting will create an increase in lighting or glare that would affect daytime or nighttime views in the area. Therefore, there are no impacts from lighting in the Project area.

II. Agriculture and Forestry Resources

The Agriculture and Forestry Resources section of this environmental document evaluates the impact the proposed Project would have on farmland or forest resources.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project is an improvement of the intersection of Paramount Boulevard and Imperial Highway designed to accommodate anticipated growth in traffic. The Project will improve the existing streets by adding dual left turn lanes to accommodate vehicular U-turns and by adding decorative concrete crosswalks at the intersection. The proposed Project would not convert prime farmland or farmland of statewide importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency. No farmland or agricultural land is affected by the Project. The Project does not convert any identified agricultural land to non-agricultural use. Therefore, there is no impact on agricultural land.
- b) **No Impact.** The Project involves improvements to an existing intersection within the City of Downey. No Williamson Act contracts or existing zoning for agricultural use would be affected by the proposed Project. Therefore, there are no impacts to agricultural land associated with the Project.
- c) **No Impact.** The Project does not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The Project is located in an urbanized area

of the City of Downey and does not contain forest or timberland. The Project involves an urbanized area of the City. Therefore, there are no Project impacts on forests or timberland resources.

- d) **No Impact.** The Project will not involve loss of forest land or conversion of forest land to non-forest use. The Project will make improvements to the intersection of Paramount Boulevard and Imperial Highway to improve traffic flow through the area. Therefore, there are no impacts to forest land by the Project.
- e) **No Impact.** The Project is located in an urbanized area of the City of Downey. There are no changes in the existing environment triggered by the Project that would impact existing farmland or forest land or result in the conversion of such lands to non-agricultural or non-forest uses. Therefore, there are no impacts from the proposed Project.

III. Air Quality

The information and analysis presented in this Air Quality section are based on the air quality analysis dated January 24, 2020 prepared by Giroux & Associates (Appendix A). The analysis considers the requirements of the South Coast Air Quality Management District and the potential impacts of the Project on local and regional air quality.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Atmospheric Setting

An Air Quality and GHG Impact Analysis by Giroux & Associates (dated January 24, 2020, Appendix A) was prepared for the Paramount Boulevard/Imperial Highway Intersection Improvement Project. The analysis considered the climatological setting of the Project site and examined the Clean Air Act requirements and the air quality standards that would be applied to the Project. The analysis modeled the Project and projected the air quality impacts that would be expected with implementation of the Project.

The North Pacific high-pressure cell is the dominant climatic influence over the eastern North Pacific Ocean, particularly during the summer. This semi-permanent high-pressure cell produces a predominantly northwesterly flow of maritime air over the coastal waters of California. During winter, the Pacific High weakens and moves south, resulting in weaker and less persistent northwesterly winds along the California coast than in the warmer half of the year.

As the air mass approaches the coast of California, this large-scale circulation pattern is modified by local influences. The differential heating between the desert and the adjacent Pacific Ocean modifies the prevailing winds, enhancing the winds during the warmer half of the year and weakening them during the colder portion. On a localized and subregional basis, the airflow in California is channeled by its mountain ranges and valleys. The coastal mountain ranges limit the flow of maritime air into the interior of California. This transition from a cool and damp marine environment to a dry and warm continental climate therefore occurs over a fairly short distance.

The South Coast Air Basin (SCAB) is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Basin-wide conditions are characterized by warm summers, mild winters, infrequent rainfall, moderate onshore daytime breezes, and moderate humidities.

All seasons generally exhibit onshore flows during the day and offshore flows at night, after the land cools below the temperature of the ocean. The likelihood of strong offshore flows, including Santa Ana winds, is greater during winter than during summer (California Air Resources Board 1984).

The topography and climate of Southern California combine to produce unhealthful air quality in the South Coast Air Basin. Low temperature inversion, light winds, shallow vertical mixing, and extensive sunlight, in conjunction with topographical features such as adjacent mountain ranges that hinder dispersion of air pollutants, combine to create degraded quality, especially in inland valleys of the basin.

Temperatures in Downey average a very comfortable 63 degrees year-round. Summer afternoons are typically in the middle 80s, and winter mornings may drop to the low- to mid-40s. Significant extremes of temperature are rare. Rainfall in Downey averages 14 inches during a normal year. Almost all the rainfall comes from the fringes of mid-latitude storms from late November to early April with summers often completely dry.

Winds in the Downey area blow primarily from southwest to northeast by day and from northeast to southwest at night in response to the regional pattern of onshore flow by day and offshore flow at night. Average wind speeds are 5 mph, reaching 8 to 10 mph in the afternoon, but dropping to near-calm conditions at night. In the late afternoon, the winds from the southwest are replaced by a marine air “push” from the South Bay around the northern side of the Palos Verdes Peninsula. Strongest onshore flow across Downey in the late afternoon is, therefore, more from west-northwest.

Ambient Air Quality Standards (AAQS)

To gauge the significance of the air quality impacts of the proposed Project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called “sensitive receptors.” Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species, with states retaining the option to add other pollutants, require more stringent compliance, or include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule that extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action, and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in **Table 1**. Sources and health effects of various pollutants are shown in **Table 2**.

Table 1 – Ambient Air Quality Standards

Ambient Air Quality Standards							
Pollutant	Averaging Time	California Standards ¹		National Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)			
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		—			
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)	
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—		
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence	
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard		
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)	
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)		
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—		
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—		
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard		
	Rolling 3-Month Average	—		0.15 µg/m ³			
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards			
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography				
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

See footnotes on next page ...

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equalled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 2 – Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM _{2.5})	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called PM_{2.5}). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM_{2.5} and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM_{2.5} standard that is more stringent than the federal standard. This standard was adopted in 2002. The state PM_{2.5} standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state 1-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM_{2.5} were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM₁₀ standards were revoked, and a distinction between rural and urban air quality was adopted. In December 2012, the federal annual standard for PM_{2.5} was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM_{2.5} may be increased by this action and thus require accelerated planning for future PM_{2.5} attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm, which matches the current California standard. It will require 3 years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal 1-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

Baseline Air Quality

Long-term air quality monitoring is carried out by the South Coast Air Quality Management District (SCAQMD) at various monitoring stations. No nearby stations monitor the full spectrum of pollutants. Ozone, carbon monoxide, PM_{2.5} and nitrogen oxides are monitored at the Pico Rivera facility, while 10-micron diameter particulate matter (PM₁₀) is measured at the downtown Los Angeles station. **Table 3** summarizes the last 5 years of monitoring data from a composite of these data resources. The following conclusions can be drawn from this data:

1. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard as well as the 1-hour state standard have been exceeded on approximately 2% of all days in the past 5 years. The 8-hour federal standard has been exceeded on less than 1% of days for the same period. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the Project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade
2. Measurements of carbon monoxide have shown very low baseline levels in comparison to the most stringent 1-hour and 8-hour standards.
3. Respirable dust (PM₁₀) levels exceed the state standard on approximately 8% of measurement days, but the less stringent federal PM₁₀ standard has not been violated once for the same period. Year-to-year fluctuations of overall maximum 24-hour PM₁₀ levels seem to follow no discernible trend, though 2017 had the highest maximum 24-hour concentration and largest number of violations of the state standard in recent history.
4. A substantial fraction of PM₁₀ is made up of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM_{2.5}). Only six violations of the maximum 24-hour concentration of all measurement days have occurred in the last 5 years. PM_{2.5} can be an occasional air quality concern in the Project area.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Air Quality Planning

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The South Coast Air Basin (SCAB) could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM₁₀. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with “serious” or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised, and approved over the past decade. The most current regional attainment emissions forecast for ozone precursors (ROG and NO_x) and for carbon monoxide (CO) and for particulate matter are shown in **Table 4**. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM₁₀ and PM_{2.5} are forecast to slightly increase.

Table 3 – Air Quality Monitoring Summary (2014-2018), Number of Days Standards Were Exceeded and Maximum Levels During Such Violations

Pollutant/Standard	2014	2015	2016	2017	2018
Ozone					
1-hour > 0.09 ppm (S)	7	6	9	7	3
8-hour > 0.07 ppm (S)	7	11	6	9	5
8-hour > 0.075 ppm (F)	5	2	2	4	2
Maximum 1-hour concentration (ppm)	0.12	0.11	0.11	0.12	0.12
Maximum 8-hour concentration (ppm)	0.09	0.08	0.08	0.09	0.08
Carbon Monoxide					
1-hour > 20 ppm (S)	0	0	0	0	0
1-hour > 9 ppm (S, F)	0	0	0	0	0
Maximum 8-hour concentration (ppm)	2.5	1.7	1.7	2.2	1.8
Nitrogen Dioxide					
1-hour > 0.18 ppm (S)	0	0	0	0	0
Maximum 1-hour concentration (ppm)	0.09	0.07	0.06	0.07	0.08
Respirable Particulates (PM₁₀)					
24-hour > 50 µg/m ³ (S)	3/58	26/336	18/277	41/340	31/363
24-hour > 150 µg/m ³ (F)	0/58	0/336	0/277	0/340	0/363
Maximum 24-hour concentration (µg/m ³)	66.	88.	67.	96.	81.
Fine Particulates (PM_{2.5})					
24-hour > 35 µg/m ³ (F)	0/116	3/118	2/120	1/119	0/133
Maximum 24-hour concentration (µg/m ³)	35.1	52.7	46.6	49.5	35.4

S=State Standard

F=Federal Standard

Source: South Coast AQMD – Pico Rivera Air Monitoring Station for Ozone, CO, NO_x and PM_{2.5}

Downtown Los Angeles Monitoring Station for PM₁₀

data: www.arb.ca.gov/adam/

Table 4 – South Coast Air Basin Emissions Forecasts (Emissions in tons/day)

Pollutant	2015 ^a	2020 ^b	2025 ^b	2030 ^b
NO _x	357	289	266	257
VOC	400	393	393	391
PM ₁₀	161	165	170	172
PM _{2.5}	67	68	70	71

^a 2015 Base Year.

^b With current emissions reduction programs and adopted growth forecasts

Source: California Air Resources Board, 2013 Almanac of Air Quality

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM₁₀) by 2006. The 2003 AQMP was based upon the federal 1-hour ozone standard, which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the 1-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM_{2.5} standard.

Because projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time for these technologies to develop. If attainment could not be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region if the bump-up request had not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

AQMPs are required to be updated every 3 years. The 2012 AQMP was adopted in early 2013. An updated AQMP was required for completion in 2016. The 2016 AQMP was adopted by the SCAQMD Board in March 2017, and has been submitted the California Air Resources Board for forwarding to the EPA. The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NO_x, the continuing ozone problem pollutant, may need to come from major stationary sources (e.g., power plants, refineries, landfill flares). The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM _{2.5} (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (old standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)
24-hour PM _{2.5} (35 µg/m ³)	2019

The key challenge is that NO_x emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NO_x control measures are adopted and implemented, ozone attainment goals may not be met.

The proposed Project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing roadway improvement. Conformity with adopted plans, forecasts, and programs relative to population, housing, employment, and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as “Less Than Significant” just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed Project has therefore been analyzed on a project-specific basis.

Air Quality Impact – Standards of Significance

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.
- c. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- d. Exposes sensitive receptors to substantial pollutant concentrations.
- e. Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM₁₀, an aggressive dust control program is required to control fugitive dust during Project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minimal on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (e.g., pounds or tons) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 5 – Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NO _x	100	55
CO	550	550
PM ₁₀	150	150
PM _{2.5}	55	55
SO _x	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November 1993 Rev.

Additional Indicators

In its CEQA Handbook, the SCAQMD states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

Roadway improvements are not anticipated to substantially alter traffic flow and associated air pollution emissions. Any measurable air quality impacts would therefore likely only result from Project construction activities.

Impacts Analysis

a) **No Impact.** An Air Quality Study dated January 24, 2020 (Appendix A) prepared by Giroux & Associates analyzed the air quality impacts from the proposed Paramount Boulevard/Imperial Highway Intersection Improvement Project even though the proposed improvements do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general road improvements. Conformity with adopted plans, forecasts, and programs relative to population, housing, employment, and land use is the primary yardstick by which impact significance of Projects is determined. Therefore, the Paramount Boulevard/Imperial Highway Intersection Improvement Project has no impact on implementation of nor is in conflict with the applicable air quality plan for the South Coast Air Basin.

b) **Less Than Significant Impact with Mitigation Incorporated.** The Project involves the improvement of the Paramount Boulevard/Imperial Highway intersection in the City of Downey.

Air quality impacts are considered "significant" if they cause clean air standards to be violated where they are currently met, or if they "substantially" contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact. Impacts from the proposed Project are considered from construction activities as well as future operation of the redesigned intersection.

Construction Activity Impacts

CalEEMod was developed by the SCAQMD to provide a computer model by which to calculate construction emissions and operational emissions from a variety of land use projects. It calculates the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

Although exhaust emissions will result from on-site and off-site construction equipment, the exact types and numbers of equipment will vary among contractors such that such emissions cannot be quantified with certainty. Estimated construction emissions were modeled using CalEEMod2016.3.1 to identify maximum daily emissions for each pollutant during Project construction using an equipment fleet for typical project activities.

All four legs of the intersection will be widened to provide sufficient road width for vehicular U-turn movements. The intersection itself will be reconstructed with concrete pavement, and decorative concrete

crosswalks will be added along with modified traffic signals and striping, signing and pavement markings, street lighting, and upgraded bus shelters and furnishings.

Project construction is expected to require 6 months. The durations and equipment shown in **Table 6** were modeled in CalEEMod for this Project.

Table 6 – Construction Activity Equipment Fleet

Phase Name and Duration	Equipment
Demo (30 days)	1 concrete saw 1 dozer 3 loader/backhoes
Grading (30 days)	1 grader 1 dozer 1 loader/backhoe
Underground Utilities (30 days)	1 crane 1 welder 1 forklift
Paving and Median Construction (3 months)	1 mixer 1 paver 1 paving equipment 1 rollers 1 loader/backhoe

Utilizing this indicated equipment fleet and durations shown above, the following worst-case daily construction emissions are calculated by CalEEMod as shown in **Table 7**.

Table 7 – Construction Activity Emissions , Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2021						
Unmitigated	2.2	19.8	16.0	0.0	5.7	3.2
Mitigated	2.2	19.8	16.0	0.0	2.9	1.7
SCAQMD Thresholds	75	100	550	150	150	55

Peak daily construction activity emissions are estimated to be well below SCAQMD CEQA thresholds without the need for added mitigation. The only model-based mitigation measure applied for this Project was watering exposed dirt surfaces at least three times per day to minimize the generation of fugitive dust generation during grading.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

Localized Significance Thresholds

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed Project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, a hospital, or a convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM₁₀ and PM_{2.5}). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200 and 500 meter source-receptor distances. For this Project the adjacent residential uses are considered the closest sensitive receptors such that the most conservative 25-meter distance was modeled. LST pollutant screening level concentration data is also dependent on site size. For this Project data for the most conservative 1-acre site was used.

The following thresholds and emissions in **Table 8** are therefore determined (pounds per day):

Table 8 – LST and Project Emissions (pounds/day)

LST 1.0 acres/25 meters, SE LA County	CO	NO _x	PM-10	PM-2.5
Allowable On-Site Emissions	571	80	4	3
Modeled On-Site Emissions				
Unmitigated	16	20	6	3
Mitigated	16	20	3	2

CalEEMod Output in Appendix

LSTs were compared to the maximum daily construction activities. As seen above, emissions will meet the LST for construction thresholds with the application of the following mitigation measure:

- Exposed surfaces will be watered three times per day during grading activities

LST impacts are less-than-significant with the application of this mitigation measure.

Operational Impacts

No substantial changes in traffic patterns would result from Project implementation. Minimal changes in roadway utilization would result from traffic flow improvements, enhanced aesthetics, and small safety benefits. Because the vehicular wait time at the intersection would decrease as evidenced by the LOS data, the Project is considered “air quality positive.” Operational air quality impacts would not be considered “substantial” in a CEQA sense.

However, the following mitigation measures are recommended to reduce dust emissions and ozone precursor emissions (ROG and NO_x). Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin. Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended.

Mitigation Measures

MM-AQ-1 – Fugitive Dust Control. Implement the following mitigation measures during Project construction for dust emissions control:

- Apply soil stabilizers or moisten inactive areas.
- Prepare a high wind dust control plan.
- Address previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2 to 3 times per day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in/out traffic from construction zone.
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least 2 feet of freeboard.
- Sweep streets daily if visible soil material is carried out from the construction site.

MM-AQ-2 – Exhaust Emissions Control. Implement the following mitigation measures during Project construction for exhaust emissions control:

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better heavy equipment.
- Enforce 5-minute idling limits for on-road trucks and off-road equipment.

- c) **Less Than Significant Impact with Mitigation Incorporated.** The Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the SCAB is non-attainment under an applicable federal or state ambient air quality standard with the implementation of mitigation measures included in Section III.b) above. Those mitigation measures reduce dust and exhaust emissions to a less than significant level.
- d) **Less Than Significant Impact with Mitigation Incorporated.** Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. Such persons are called “sensitive receptors.” Sensitive population groups include young children, the elderly, and the acutely and chronically ill (especially those with cardio-respiratory disease).

Residential areas are considered to be sensitive to air pollution exposure because they may be occupied for extended periods, and residents may be outdoors when exposure is highest. Schools are similarly considered to be sensitive receptors. The closest existing sensitive uses to the proposed Project are the residential areas adjacent to or near the Project on three of the four intersection legs. That includes north, east and south of the intersection Project.

Dust is typically the primary concern during construction of road projects and infrastructure. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions.” Emissions rates vary as a function of many parameters, such as soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation. Because of the inherent uncertainty in the predictive factors for estimating fugitive dust generation, regulatory agencies typically use one universal “default” factor based on the area disturbed, assuming that all other input parameters into emission rate prediction fall into midrange average values.

Construction activities on the Paramount Boulevard/Imperial Highway Intersection Improvement Project are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, mitigation through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin and the proximity of existing residences. Mitigation measures are recommended above under Section III.b) to further reduce short-term impacts

associated with construction emissions in compliance with the SCAQMD. Therefore, less than significant impacts to this topical area would result from the Project with implementation of the mitigation measures.

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended.

- e) **Less Than Significant Impact.** The Paramount Boulevard/Imperial Highway Intersection Improvement Project will not create any objectionable odors. A mitigation measure has been presented in Section III.b) above requiring compliance with SCAQMD Rule 402 (Nuisance). The proposed mitigation measures will reduce the impact of diesel exhaust from construction activities to a less than significant level. Therefore, the proposed Project will not result in any significant impacts of objectionable odors affecting a substantial number of people.

IV. Biological Resources

The Biological Resources section analyzes the potential impact of the Project on wildlife and plant resources within the Project area. The Project site is primarily developed with existing commercial and residential uses.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project involves improvements to the intersection of Paramount Boulevard and Imperial Highway in the City of Downey to accommodate anticipated growth in traffic through 2035. The proposed intersection Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service. The Project involves the intersection primarily within 300 feet on approach ends and 100 feet on departure ends. There is no candidate or special status species in the Project area, and no habitat will be disturbed as a result of the Project. Therefore, there will be no impact on any species as a result of this Project, and no further analysis is needed.
- b) **No Impact.** There is no riparian habitat located within the Project site nor any other sensitive natural communities identified in local, regional, state, or federal plans would be affected by the Project. The Project involves improvement of an existing street intersection and does not impact biological resources. Therefore, no impacts will result in this area and no further analysis is necessary.
- c) **No Impact.** The Project will not have an adverse impact on federally protected wetlands as defined by Section 404 of the Clean Water Act. There will be no direct removal, filling, or hydrological interruption to any of these resources. Therefore, the Project has no impact.

- d) **No Impact.** The proposed Project is the improvement of the intersection of Paramount Boulevard and Imperial Highway in the City of Downey. The area surrounding the intersection is developed with commercial businesses and apartments and condos. There are no migratory wildlife corridors, and the Project would not interfere with the movement of any native resident or migratory fish or wildlife species. Therefore, the Project will carry no impacts, and there is no further need for additional analysis.
- e) **No Impact.** The Project does not conflict with any local policies or ordinances protecting biological resources, such as local tree preservation policies or ordinances. No trees are proposed for removal as part of the Project. Therefore, there is no impact and there is no need of further analysis.
- f) **No Impact.** There are no Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional or state habitat conservation plans in the Project area. Therefore, there will be no impacts from the Project in this issue area.

V. Cultural Resources

The Cultural Resources section analyzes impacts on historical resources in the Project site. The Project site has been previously graded to support the intersection and roadways that currently exist. None of the structures located on the adjacent parcels are listed as historical structures by the City of Downey.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** An Archaeological Assessment for the Proposed Paramount Boulevard/Imperial Highway Intersection Improvement Project was completed by Carol R. Demcak of ARMC on December 9, 2019 (Appendix B). The Assessment included archival research at the City of Downey and at the South Central Coastal Information Center at the Department of Anthropology, California State University, Fullerton. The Assessment also included a field survey of the Project area.

The Archaeological Assessment found that no significant archaeological resources were recorded within a one-half mile radius of the Project area. No previously unrecorded archaeological resources were discovered during the field survey. Thus, no adverse impacts to significant archaeological resources are predicted for the proposed Project.

The Project is a proposed improvement to the intersection of Paramount Boulevard/Imperial Highway that would add two left-turn pockets and some additional right of way to allow U-turn movements. The Project is located in the southwest area of the City of Downey. The Project would not cause a substantial adverse change in the significance of a historical resource. There are no listed significant historical resources in the area of commercial establishments, apartments and condos that surround the Project site. Therefore, there will be no impacts from the Project on historical resources.

- b) **No Impact.** The Project will impact an area that has previously been graded and developed in connection with the existing intersection and developed areas. There are no identified archaeological resources within the street alignment that is the Project site. Therefore, the Project will not impact or cause an adverse change in the significance of any archaeological resources.
- c) **No Impact.** The Project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The Project involves the improvement of an existing intersection in the City of Downey. There are no unique paleontological features or resources in the area impacted by the Project. Therefore, there will be no impacts in this issue area.
- d) **No Impact.** There are no known cemeteries or burial grounds within the Project area or adjacent to it. The Project involves intersection improvements to streets that exist today, and the Project envelope is primarily the existing street right of way. It is not anticipated that there will be any issues involving human remains since the Project site has previously been graded and developed with the existing Paramount Boulevard and Imperial Highway. Therefore, there will be no impacts in this issue area.

VI. Energy

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or nergy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The project involves improvements to the intersection of Paramount Boulevard and Imperial Highway in the City of Downey. There will not be any wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Therefore, there will be no impacts.
- b) **No Impact.** The project will not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, there is no impact.

VII. Geology and Soils

The Geology and Soils section evaluates the potential impacts of Southern California's seismic events on the Project. The analysis is based largely on the City's Vision 2025 General Plan and the Environmental Impact Report supporting it that were completed in 2005 and regional mapping of fault lines and historical earthquake information. The analysis includes the range of geotechnical events that could impact the Project site.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) The City of Downey, as all of Southern California, is impacted by earthquake faults that exist across the region. The most significant is the San Andreas Fault that is located approximately 40 miles to the northeast of the City. The San Andreas Fault has a very high potential for large-scale movement in the near future.¹ There are additional faults that have the potential to impact the City of Downey. The Compton-Los Alamitos Fault and the Newport-Inglewood Fault are located six and ten miles southwest of the City, respectively. These two faults have the greatest potential to impact the City of Downey. There are several other faults that could generate seismic activity that could impact the City.
- i) **Less Than Significant Impact.** No area of the City is listed in the Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist (General Plan EIR, page 5-19). Therefore, actual rupture of a known earthquake fault within the City limits is less than significant.
- ii) **Less Than Significant Impact.** The potential for strong seismic ground shaking exists in the City of Downey. However, the Project involves no buildings and proposes only improvements to the intersection of Paramount Boulevard and Imperial Highway. Therefore, the Project is

1 Downey Vision 2025 General Plan, January 2005, page 5-17 and General Plan EIR, page 5-19.

susceptible to minimal impacts from ground shaking and rupture since the Project is not located in an earthquake fault zone.

- iii) **Less Than Significant Impact.** The Project area is identified as a liquefaction zone in the Liquefaction Zones map of the General Plan EIR (Figure 5.2-2). While the soils texture in the Project area contains sandy silt and silty clay, it is not considered a significant impact, because the Project involves no structures and would only improve an existing intersection of roads. Additionally, compliance with General Plan Goals and Policies as well as with existing codes and regulations will ensure that potential impacts from liquefaction will be less than significant. Therefore, liquefaction potential of the Project is considered less than significant.
- iv) **No Impact.** The Project site is essentially flat and carries no potential for landslides triggered by seismic activity. Therefore, there is no impact in this issue area.
- b) **No Impact.** The Project focuses on intersection improvements to Paramount Boulevard and Imperial Highway. The Project location is basically level, and measures will be implemented to prevent soil erosion during construction. Therefore, there are no impacts related to erosion and loss of topsoil.
- c) **No Impact.** The Project location is currently on typical soil found in the surrounding area that does not contain unstable soil or soil that could become unstable as a result of the Project. The Project area is considered at risk for liquefaction, but not for landslide activity. The intersection will be modified in the footprint primarily where it exists today and ground disturbance will be minimal. Therefore, there are no impacts from the result of the geology of the area where the Project is located.
- d) **No Impact.** The Project is not located on expansive soil. The intersection of Paramount Boulevard and Imperial Highway has existed on the site for decades and is merely being reconfigured to accommodate anticipated growth. Therefore, there will be no impacts related to expansive soils.
- e) **No Impact.** This is an existing street improvement Project that will not use or construct septic tanks in the Project area. Sewer systems connected to the City sewer system already exist in the Project area and serve adjacent commercial and residential buildings. Soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems are not an issue. Therefore, there will be no impacts in this area.

VIII. Greenhouse Gas Emissions

The Greenhouse Gas Emissions section analyzes the impact the proposed Project would have on emissions suspected in the issue of climate change around the world. The Project was analyzed within the Air Quality Study conducted by Giroux & Associates and included as Appendix A of this document.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Impacts Analysis

- a) **Less Than Significant Impact.** “Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, §15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06, and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles, as well as far-reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Requires the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Thresholds of Significance

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the California Code of Regulations specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantifying project-related GHG emissions, making a determination of significance, and specifying appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008, the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans) of 10,000 metric tons (MT) CO₂ equivalent per year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions that recommended a threshold of 3,000 MT CO₂e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

Construction Activity GHG Emissions

The Project is assumed to be built in approximately six months. During Project construction, the CalEEMod2016.3.2 computer model predicts that the construction activities will generate the annual CO₂e emissions identified below.

Table 9 – Construction Emissions (Metric Tons CO₂e)

	CO ₂ e
Year 2021	102.9
Amortized	3.4

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are less than significant. Hence, the Project will not result in generation of a significant level of greenhouse gases.

- b) **Less Than Significant Impact.** The City of Downey adopted an Energy Action Plan in 2017 focusing on the energy efficiency as a means to lower GHG emissions. However, this approach is not applicable for this roadway improvement project, which will have no associated operational emissions. The City has not adopted regulations for the purpose of reducing GHGs applicable to this Project. The applicable GHG planning document is AB 32. As discussed above, the Project is not expected to result in a significant increase in GHG emissions. As a result, the Project results in GHG emissions below the recommended SCAQMD 3,000-ton threshold. Therefore, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

IX. Hazards and Hazardous Materials

The Hazards and Hazardous Materials section of this document evaluates any potential impacts from hazardous substances caused by the Project. The section analyzes any potential impacts from the use of hazardous substances involved in construction activities such as storage of gasoline or oils related to construction equipment.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project is an improvement of the intersection of Paramount Boulevard and Imperial Highway. The Project does not involve the routine transport, use, or disposal of hazardous materials that would create a significant hazard to the public. Therefore, there are no impacts from routine transport, use or disposal of hazardous materials.
- b) **Less Than Significant Impact with Mitigation Incorporated.** While the Project is primarily an intersection improvement project, there is the possibility that fuels, oils, and other hazardous materials could be stored on the Project site during construction. It is a possibility that the storage of these materials could lead to an accidental spill that could create a hazard to the environment. Therefore, the following mitigation measure is offered to reduce the significance of this risk to a less than significant level.

Mitigation Measures

The following mitigation measures are required to reduce potential impacts related to hazards and hazardous materials to a less than significant level.

MM-HAZ-1 – Hazmat Storage. During the Project the applicant shall ensure that grading and street improvement plans include the following measures and that the measures shall be followed by the construction contractor and crew: a) the storage of hazardous materials, chemicals, fuels, and oils and fueling of construction equipment shall be a minimum of 45 meters (150 feet) from any drainage, water supply, or other water features; b) hazardous materials stored on-site shall be stored in a neat, orderly manner in appropriate containers and, if possible, under a roof or other enclosure; c) whenever possible, all of a product shall be used up before disposal of its container; d) if surplus product must be disposed of, the manufacturer's or the local and state recommended methods for disposal shall be followed; e) spills shall be contained and cleaned up immediately after discovery. Manufacturer's methods for spill cleanup of a material shall be followed as described on the Material Safety Data Sheets (MSDS) for each product.

- c) **Less Than Significant Impact.** Two schools are located within one-quarter mile of the Paramount Boulevard/Imperial Highway Intersection Improvement Project. Imperial Elementary School is located at 8133 Imperial Highway and St. Raymond School is located at 12320 Paramount Boulevard, both in the City of Downey. Schools are considered a sensitive receptor and must be considered when evaluating the potential for accidental upset of hazardous materials. While there are schools within one-quarter mile of the Project site, Mitigation Measure HAZ-1 above, as well as Mitigation Measure AQ-2 directed at vehicle emissions, should reduce any potential impacts.
- d) **No Impact.** The Project site itself is not included on a list of hazardous materials sites compiled pursuant to California Government Code §65962.5. Two sites adjacent to the Project area at 8010 Imperial Highway and 12603 Paramount Boulevard were former gas stations that were listed for a leaking underground storage tank. However, the sites have been cleaned up and the cases closed in 2012 and 2008, respectively.² Therefore, there are no impacts from any hazardous materials sites that exist on the Project site.
- e) **No Impact.** The Project is not located within an airport land use plan and there is no public airport or public use airport located within two miles of the Project site. The Project would not result in a safety hazard for people residing in or working in the Project area. Therefore, there are no impacts.
- f) **No Impact.** The Project would not interfere with or impair implementation with an adopted emergency response plan or emergency evacuation plan. The Project is a street improvement Project in the City of Downey. While the street may experience short-term disruption during the Project, it will be available now and in the future for any emergency evacuations. Therefore, there is no impact in this area.
- g) **No Impact.** The proposed Project is not adjacent to wildland areas and is located in the urbanized area of the City of Downey. The Project will not expose people or structures to a significant risk of loss, injury or death involving wildland fires. Therefore, there is no impact in this area.

2 GeoTracker, January 2020, <https://geotracker.waterboards.ca.gov/>

X. Hydrology and Water Quality

The Hydrology and Water Quality section evaluates the impact of the proposed Project on water quality standards or waste discharge requirements. The section also considers any impacts to the drainage of the property and any potential impacts from storm water runoff to streams, rivers, or the Pacific Ocean.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **Less Than Significant Impact with Mitigation Incorporated.** The City of Downey (and the Project site) is divided into three drainage areas with respect to the three receiving bodies of water that border the City. The southwest portion of the City where the Project is located drains to the Los Angeles River. The Project area is under the jurisdiction of the California Regional Water Quality Control Board (RWQCB) Los Angeles Region for issues related to water quality. Each of the nine Regional Boards within California is required to adopt a Water Quality Control Plan, or Basin Plan. Each Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan 1) designates beneficial uses for surface and ground waters; 2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy; 3) describes implementation programs to meet the objectives and protect the beneficial uses of all waters in the

region; and 4) describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.

There are two primary types of source pollution: single-point source and nonpoint source pollution. Single-point sources are water pollutants that originate from a single-point source such as factories. Potential impacts to water quality associated with this type of project (intersection improvements) are nonpoint source pollution. Nonpoint source pollution includes materials and/or chemicals (e. g., motor oils/grease, paint, pet wastes, garden chemicals, litter) that may be washed into the storm drain system from various sources. Nonpoint source pollutants are typically washed into the storm drain system by rainwater and other means from streets, parking areas, residential neighborhoods, commercial/retail centers, and construction sites. The Project site is the intersection of Paramount Boulevard and Imperial Highway. The proposed Project involves improvements to the intersection. The proposed construction activities at the site will implement Best Management Practices (BMPs) to reduce any potential impacts to water quality. Post-development activities have the potential to discharge contaminants into the storm water and urban runoff into the existing municipal storm drain system of the City of Downey as does the existing street.

Implementation of the Project will include compliance with the adopted Basin Plan and City of Downey water quality requirements. Compliance will include adoption of BMPs for handling the runoff from the street and adjacent parking or hard surface areas. The BMPs are construction devices, procedures, and methods that are implemented to reduce (or eliminate) source pollution (runoff). Additionally, the Project will disturb more than one acre of the existing Project site, which requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP). Therefore, with mitigation potential impacts to water quality will be reduced to a less than significant level.

Mitigation Measure

The following mitigation measure is required to reduce potential impacts related to water quality to a less than significant level.

MM-HYD-1 – Prior to construction activities, a Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) will be prepared to the requirements of the City of Downey Municipal Code and State Regional Water Quality Control Board's Basin Plan.

- b) **No Impact.** The Project is the improvement of the intersection at Paramount Boulevard and Imperial Highway. The Project will not disrupt groundwater recharge or substantially deplete groundwater supplies. Therefore, there will be no impact to groundwater supplies or interference with the production rate of local wells.
- c) **Less Than Significant Impact.** The Project will not substantially alter the existing drainage pattern of the Project site. Paramount Boulevard and Imperial Highway currently drain through the storm drain system into the Los Angeles River west of the Project site. The Project does not call for any changes to the storm drain system serving the streets. Therefore, the Project will not alter the existing drainage pattern of the site and will not alter the course of a stream or river in a manner which would result in substantial erosion or siltation on or off-site.
- d) **Less Than Significant Impact.** See Section X.c) above. The Project will not substantially alter the existing drainage pattern of the site or area. There is no alteration of the course or a stream or river proposed in the Project. The Project will not substantially increase the rate or amount of surface runoff in a manner that would result in flooding on or off-site. The Project would not substantially increase the rate of surface runoff. Therefore, there are less than significant impacts from the Project.

- e) **Less Than Significant Impact.** See Section X.c) above. The Project will not create or contribute runoff water that would exceed the capacity of existing storm water drainage systems or provide substantial additional sources of polluted runoff. Paramount Boulevard and Imperial Highway currently drains into the Los Angeles River. Therefore, the Project will not contribute runoff that would exceed the capacity of existing storm water drainage systems.
- f) **No Impact.** The Project will include a WQMP that will utilize BMPs to reduce pollution from normal stormwater runoff. Street sweeping should also reduce any degradation of water quality in the Project area. Therefore, there will be no impact in this area.
- g) **No Impact.** The Project does not propose to add any housing. The Project is an improvement of the intersection of Paramount Boulevard and Imperial Highway. Additionally, the Project area is within the 500-year flood hazard area according to the City of Downey Vision 2025 General Plan EIR.³ Therefore, the Project will not place housing in a 100-year flood hazard zone, and there are no impacts from this Project in this area.
- h) **No Impact.** The Project would not place within a 100-year flood hazard areas or structures that would impede or re-direct flood flows. The Project involves the improvement of the intersection of Paramount Boulevard and Imperial Highway. There are no structures or buildings associated with the Project that would impede flood flows in the area. Therefore, there are no impacts in this issue area.
- i) **Less Than Significant Impact.** The Project itself would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. Paramount Boulevard and Imperial Highway currently exists in the area, and the Project proposes minimal changes to the street footprint. Therefore, impact from the Project is less than significant.
- j) **No Impact.** The City of Downey does not lie within a tsunami inundation zone. Likewise, there is only one artificial reservoir in the City at Downey Wilderness Park Lakes and it is not of sufficient size to result in a seiche during a seismic event. Additionally, there are no areas where mudflows could occur. Therefore, there are no impacts to the Project from tsunami, seiche or mudflows.

3 Downey Vision 2025 General Plan (2005), page 5-21

XI. Land Use and Planning

The Land Use and Planning section evaluates any potential conflicts between the Project and the City's General Plan and Zoning Code or any habitat conservation plan established by the City of Downey.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project is an intersection improvement project at Paramount Boulevard and Imperial Highway. The intersection is being improved to accommodate anticipated growth through 2035. The Project would not physically divide an established community since the intersection and the streets exist today and the Project would not require elimination of any surrounding uses. The Project would not divide an established community. Therefore, there is no impact from this Project.
- b) **No Impact.** The Project does not conflict with any applicable land use plan, policy or regulation adopted for the purpose of avoiding or mitigating an environmental effect. In fact, the Paramount Boulevard/Imperial Highway Intersection Improvement Project is consistent with the adopted General Plan for the City of Downey. Therefore, the Project is consistent with applicable land use plans and policies and there is no impact in this area.
- c) **No Impact.** There are no habitat conservation plans or natural community conservation plans in Downey. The City is fully developed in an urban setting. The Project is an improvement of an existing intersection of two major arterials in the City to accommodate projected growth through 2035. Therefore, there is no impact on any habitat conservation plans.

XII. Mineral Resources

The Mineral Resources section analyzes any impacts the proposed Project might have on mineral resources in the City.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** There are no known mineral resources located on the Project site. The State of California Department of Conservation, Division of Mines and Geology commissioned a study in 1982 that looked at mineral land classification in the greater Los Angeles area⁴ including the City of Downey. The study found the area might be underlain by some mineral deposits but could not determine the significance of them. The Project site is an existing intersection that has operated for many years. The Project proposes to improve the intersection of Paramount Boulevard and Imperial Highway. The Project would not disturb any identified mineral deposits. Therefore, there are no known impacts to mineral resources.
- b) **No Impact.** See response Section XII.a) above. The Project would not result in the loss of a locally important mineral resource or recovery site that is delineated on a local general plan, specific plan, or other land use plan. Therefore, there are no impacts in this issue area.

⁴ Mineral Land Classification of the Greater Los Angeles Area, Special Report 143, Part IV, Plate 4.1

XIII. Noise

The Noise section evaluates the impact the Project will have on the neighborhood and the impact of the noise environment on the Project itself. The analysis is based on the Noise Analysis conducted by Giroux & Associates dated January 24, 2020 and included as Appendix C of this document.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **Less Than Significant Impact.** The State of California has established guidelines for acceptable community noise levels that are based upon the CNEL rating scale. The guidelines rank noise/land use compatibility in terms of “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and “clearly unacceptable” noise levels for various land use types. The City of Downey has adopted the same exterior noise/land use compatibility guideline as that used by the State of California. The City of Downey noise/land use compatibility guidelines have been used as the surrounding jurisdiction that may be affected by the proposed Project.

CNEL-based standards are used to make land use decisions as to the suitability of a given site for its intended use. They apply to those noise sources not amenable to local control, such as on-road traffic, aircraft, and trains. Because cities cannot regulate the noise created by such sources, they control the types of land use or levels of mitigation required by the receiving property. These noise compatibility standards are shown in **Table 10**.

Table 10 – Downey Land Use Compatibility Guidelines for Exterior Community Noise

Land Use	Community Noise Exposure CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	Above 75
Multi-Family Homes	50-65	60-70	70-75	Above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	Above 80
Transient Lodging: Motels, Hotels	50-65	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	-	50-70	-	Above 65
Sports Arena, Outdoor Spectator Sports	-	50-75	-	Above 70
Playgrounds, Neighborhood Parks	50-70	-	67-75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	-	70-80	Above 80
Office Buildings, Business and Professional Commercial	50-70	67-77	Above 75	-
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	Above 75	-

Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Downey General Plan

The noise/land use compatibility standards consider exterior exposures up to 60 dBA CNEL “normally acceptable” for single-family residential use and 65 dB CNEL is acceptable for multi-family use, with exposures of up to 70 dB “conditionally acceptable”. Commercial use buildings are considered “normally acceptable” with exposures of 70 dB CNEL as well, though they are allowed a 77 dB threshold for “conditionally acceptable”. “Conditionally acceptable” requires closed windows and fresh air supply systems or air conditioning. Although the Noise Element considers noise exposures in excess of 60 dB CNEL to be compatible with residential uses under some circumstances, Noise Goal One of the Noise Element states that the City’s exterior noise standard shall be 60 dB CNEL for all sensitive land uses.

Exterior standards apply to normally used recreational exterior space (such as patio, porch, and pool/spa). They are also a guide to likely interior noise exposure based on the structural attenuation normally achievable with various types of construction.

The Downey General Plan specifies 45 dB CNEL as the residential interior noise standard. Because normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dBA CNEL for exterior would provide an interior 45 dBA CNEL. Nevertheless, a 60 dBA CNEL for exterior residential use was used for this study as specified by the Downey General Plan Policy (6.1.3).

CNEL-based standards are the land use planning standards that are applied to noise sources for which the City of Downey is pre-empted from exercising local control. These sources include on road traffic and train noise. Those noise sources that are amenable to local control are regulated by the City of Downey Municipal Code (§4606.4). The ordinance establishes allowable levels of sound that may cross any adjacent property line, as well as prohibiting general nuisance noise and identifying a number of specific prohibitions.

The Ordinance also states that if any parcel of real estate is developed and used for multiple land uses, the lower land use noise level standard shall apply (Municipal Code 4606.4C). Municipal Code

§4606.3(a) specifies that an increase of 5 dB(A) at the property line of a receiving property is evidence of a nuisance. If the alleged source is continuous and cannot be reasonably discontinued, Municipal Code §4606.3(b) limits the noise at the property line of the transmitting property to the standards below:

Land Use	Time Period	Maximum Permissible Steady Noise Levels (dB)
Exterior Residential Uses	7:00 a.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	45
Exterior Commercial Uses	7:00 a.m. – 10:00 p.m.	65
	10:00 p.m. – 7:00 a.m.	65
Exterior Manufacturing Uses	7:00 a.m. – 10:00 p.m.	70
	10:00 p.m. – 7:00 a.m.	70

In the hours between 7:00 a.m. and 10:00 p.m., the noise levels permitted above may be adjusted by including the following factors when applicable:

- Noise source operated 12 minutes per hour or less +5 dB(A)
- Noise source operated 3 minutes per hour or less +10 dB(A)
- Noise source operated 1 minutes per hour or less +15 dB(A)

Construction projects shall be exempted from the above noise provisions provided a valid permit for such construction is obtained from the City. No construction is to take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day, and no repair or remodeling shall exceed 85 dB across any property boundary at any time during the source of a 24-hour day (Municipal Code §4606.5).

The term “substantial increase” is not defined by any responsible agency. The limit of perceptibility by ambient grade instrumentation (sound meters) or by humans in a laboratory environment is around 1.5 dBA. Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a 3 dB difference. A threshold of 3 dBA is commonly used to define “substantial increase.” An increase of 3 dBA CNEL in traffic noise would be a consistent significant impact.

Two characteristic noise sources are typically identified with roadway improvements such as that proposed for the development of the Paramount Boulevard and Imperial Highway Intersection improvements. Construction activities, especially heavy equipment, will create short-term noise increases near the Project site. Such impacts may be important for nearby noise-sensitive receptors such as any existing residential uses. Upon completion, Project-related traffic could cause an incremental increase in area-wide noise levels throughout the project area. For this Project, traffic noise impacts are analyzed to ensure that the Project does not adversely impact the acoustic environment of the surrounding community.

Sensitive Uses

Several roadway segments have existing adjacent sensitive residential uses as follows:

North of Intersection

12533 Paramount Boulevard, SFR Condo (2 buildings)	40' from work limit, 21' from TCE*
12542 Paramount Boulevard, Aspen Place Apartments	62' from work limit
12527 Paramount Boulevard, Athens Apartments	26' from work limit

East of Intersection (does not directly front construction but is close to the construction limit

12603 Block Avenue, SFR	100' from work limit
-------------------------	----------------------

South of Intersection

12620 Paramount Boulevard, SFR
7957 Lyndora Street, SFR

65' from work limit
52' from work limit

West of Intersection

No adjacent sensitive uses

*TCE=Temporary Construction Easement

To limit noise impacts to sensitive uses, mitigation measures are proposed in Section XIII.d) below to maintain acceptable noise levels. With implementation of these mitigation measures, noise impacts will be less than significant.

- b) **Less Than Significant Impact.** Project-related pavement cutting, excavation and construction activities has the potential to result in vibration that could disturb nearby residents and/or cause cosmetic damage to existing adjacent buildings or structures.

Groundborne vibration occurs when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of groundborne vibration include discernible movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration-related problems generally occur due to resonances in the structural components of a building because structures amplify groundborne vibration. Within the “soft” sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

The vibration descriptor commonly used to determine structural damage is the peak particle velocity (ppv) which is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in inches per second. The range of such vibration is as follows in **Table 11**.

Table 11– Human Response to Transient Vibration

Average Human Response	ppv (in/sec)
Severe	2.000
Strongly perceptible	0.900
Distinctly perceptible	0.240
Barely perceptible	0.035

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2013

Over the years, numerous vibration criteria and standards have been suggested by researchers, organizations, and governmental agencies. There are no Caltrans or Federal Highway Administration standards for vibration.

According to Caltrans, the threshold for structural vibration damage for modern structures is 0.5 inches per second (in/sec) for intermittent sources, which include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures from intermittent construction or maintenance activities for residential buildings in good repair with gypsum board walls to be 0.4 to 0.5 in/sec. The damage threshold criterion of 0.2 in/sec is appropriate for fragile buildings. For

the purpose of this analysis, because adjacent residences can be older, the 0.2 in/sec damage threshold for older fragile buildings is used as a very conservative evaluation criteria. Below this level there is virtually no risk of building damage. **Table 12** shows the predicted vibration levels generated by construction equipment.

Table 12 – Estimated Vibration Levels During Project Construction

Equipment	PPV at 25 ft (in/sec)	PPV at 50 ft (in/sec)	PPV at 75 ft (in/sec)	PPV at 100 ft (in/sec)
Large bulldozer	0.089	0.031	0.017	0.011
Loaded trucks	0.076	0.027	0.015	0.010
Jackhammer	0.035	0.012	0.007	0.004
Small bulldozer	0.003	0.001	0.001	<0.001

Source: FHWA Transit Noise and Vibration Impact Assessment

The calculation to determine PPV at a given distance is:

$$PPV_{distance} = PPV_{ref} * (25/D)^{1.5}$$

Where:

PPV_{distance} = the peak particle velocity in inches/second of the equipment adjusted for distance,
PPV_{ref} = the reference vibration level in inches/second at 25 feet, and
D = the distance from the equipment to the receiver.

The closest sensitive uses adjacent to the Project alignment have a minimal 25-foot separation distance. Because the construction envelope is small, it is unlikely that a large bulldozer will be used. A small bulldozer creates much lower vibration levels.

As seen on **Table 12**, at the closest setback of 25 feet the vibration levels are well below levels that could create structural damage in fragile buildings (i.e., 0.2 in/sec). Vibration levels will be below the human perception threshold and far below any possible cosmetic damage level.

Vibration impacts are less than significant.

- c) **No Impact.** Long-term noise concerns potentially exist from the change in traffic volumes on roadways in the Project vicinity. This concern was addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the Leq noise level for a reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

This analysis evaluates the change between existing noise levels “with” and “without” Project at the Imperial Highway and Paramount Boulevard intersection. Two-time frames are evaluated. Existing conditions “with” and “without” Project and year 2035 “with” and “without” project. As shown in **Table 13**, the noise levels for the with and without project implementation scenario is identical. The Project is growth accommodating rather than growth inducing. The number of vehicles utilizing the intersection stay the same for both the “with” and “without” Project conditions. Although the wait time for vehicles will be lower, there is no mechanism to quantify any associated benefits. Therefore, the Project will not create any traffic noise increases and qualitatively could slightly lower noise levels.

Therefore, there will be no impact to the existing noise environment at the intersection after completion of the Project.

Table 13– Traffic Noise Impact Analysis, dBA CNEL at 50 feet from centerline

Segment		Existing Without Project	Existing With Project	Change?
Paramount Boulevard/	North of Imperial	70.2	70.2	no
	South of Imperial	69.8	69.8	no
Imperial Highway/	West of Paramount	71.5	71.5	no
	East of Paramount	71.2	71.2	no

Segment		2035 Without Project	2035 With Project	Change?
Paramount Boulevard/	North of Imperial	70.5	70.5	no
	South of Imperial	70.0	70.0	no
Imperial Highway/	West of Paramount	71.8	71.8	no
	East of Paramount	71.5	71.5	no

- d) **Less Than Significant with Mitigation Incorporated.** To address the CEQA significance criterion regarding “substantial temporary or periodic noise increases in ambient noise levels” for construction noise, a “substantial” noise increase is defined as an increase in noise to a level that causes interference with land use activities at nearby uses.

Construction noise levels would vary at any given receptor depending on the construction phase, equipment type, duration of use, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. For this analysis, construction noise levels were estimated for proposed daytime construction.

The construction noise analysis shows that the nearby sensitive residential receivers will likely experience a temporary/periodic increase above ambient noise levels. Construction noise is unavoidable though noise would be temporary and limited to the duration of the construction in any one location. These temporary impacts will cease once each section of roadway is completed. Roadway projects are considered “linear” as they are only in a single area for a brief time period and move as work continues down the alignment.

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (Leq) at distance D between the source and receiver (dBA):

$$Leq = L_{max} @ 50' - 20 \log (D/50') + 10 \log (U.F\%/100) - I.L.(bar)$$

Where:

L_{max} @ 50' is the published reference noise level at 50 feet
 U.F.% is the usage factor for full power operation per hour
 I.L.(bar) is the insertion loss for intervening barriers

Point sources of noise emissions are attenuated by a factor of 6 dB per doubling of distance through geometrical (spherical) spreading of sound waves. **Table 14** shows the probable equipment fleet for this Project and identifies highest (L_{max}) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptors and the extent of equipment usage (usage factor), which is represented as Leq. A 50-foot reference distance is used.

Table 14 – Construction Equipment Noise Levels

Phase Name and Duration	Equipment	Usage Factor	Reference Noise Level @ 50 feet/ (dB)	Cumulative Noise Level @ 50 feet (dB)
Demo	Concrete saw	20%	90	84
	Dozer	40%	85	82
	Loader/backhoe	37%	78	74
Grading	Grader	40%	85	81
	Dozer	40%	85	82
	Loader/backhoe	37%	78	74
Underground Utilities	Crane	16%	81	73
	Welder	46%	74	71
	Forklift	20%	75	69
Paving and Median Construction	Mixer	40%	79	75
	Paver	50%	77	74
	Paving equipment	40%	76	72
	Roller	20%	80	74
	Loader/backhoe	37%	78	74

The closest sensitive use to any construction area is the Athens Apartments at 12527 Paramount Boulevard. The closest of these units have a 26-foot setback from the closest construction limit. At this distance, a concrete saw would be the loudest equipment, and units closest to the work could experience noise levels of up to 90 dB Leq when equipment operates at the closest perimeter. All other construction equipment is minimally 2 dB less noisy.

The maximal noise levels are limited to the time it takes to remove pavement adjacent to any residence. The interval would be brief and would affect a given sensitive receptor for only a short period of time. The progress rate for the roadway work is approximately 10 feet per day for a 6-month construction schedule; therefore, the noisiest construction activities will only be in immediate proximity to any single receptor for a few days.

Although noise levels will be noticeable at times, these exceedances would be sporadic (not continuous) in nature, limited in duration, and would occur only when equipment is typically operated within 25 feet of a given receptor. There is only one receptor at 12527 Paramount Boulevard which would be within 25 feet. All other sensitive receptors have a minimal 40-foot setback. By 40 feet, construction noise is reduced to below 85 dB Leq.

Additionally, activities are limited to daytime hours when most people are away. Because all other noise-sensitive receptors are located farther from the Project site, or equipment would be less noisy, the Project's other construction-related noise levels would be even lower.

The City of Downey limits construction noise levels of 85 dB at any sensitive use property line. Because the Project is a roadway alignment, no single piece of equipment will operate in front of any use for a substantial period of time.

The Downey Noise Ordinance states that no construction is to take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day, and no repair or remodeling shall exceed 85 dB across any property boundary at any time during the course of a 24-hour day. Therefore, a mitigation measure is proposed that would reduce project noise impacts to less than significant with mitigation incorporated.

- e) **No Impact.** The Project is not located within an airport land use plan and is not within 2 miles of a public airport or public use airport. The Project would not expose people residing or working in the Project area to excessive noise levels. The Project is improvement of an existing intersection and would have no impact in this issue area.
- f) **No Impact.** The Project is the Paramount Boulevard/Imperial Highway Intersection Improvement Project. The Project is not located within the vicinity of a private airport and would not expose people residing or working in the Project area to excessive noise levels.

Mitigation Measures

The following mitigation measure is required to reduce potential impacts from construction noise to a less than significant level.

MM-N-1 – Construction is only permitted to take place between the hours of 7:00 a.m. and 8:00 p.m. on Monday through Saturday. All construction equipment shall use properly operating mufflers.

XIV. Population and Housing

The Population and Housing section considers the impact of the proposed Project on population growth within the Project area and whether the Project would displace substantial numbers of people necessitating construction of new housing elsewhere.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project involves improvements to the intersection of Paramount Boulevard and Imperial Highway. The Project will not impact buildings or create new residential areas. It will not induce substantial population growth. Therefore, there is no impact.
- b) **No Impact.** The Project is an intersection improvement project that makes no changes to surrounding residential or commercial areas. The Project will not displace existing housing. Therefore, there will be no impact.
- c) **No Impact.** The Project will not displace any people. It will not trigger construction of replacement housing elsewhere. Therefore, there is no impact.

XV. Public Services

The Public Services section evaluates the impact of the proposed Project on public services provided by the City of Downey or other agencies.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project involves improvements to the intersection of Paramount Boulevard and Imperial Highway. The area is surrounded by commercial uses, apartments, and condos. The street Project would not impact service ratios or response times. The Project is designed to accommodate emergency vehicles within the roadway. The Project would also not trigger the need to add governmental facilities that could impact the environment. Below is a discussion of each public service considered in this analysis.

Fire Protection. The City of Downey Fire Department provides fire protection services and emergency response services from medical emergencies to hazardous materials spills within the City of Downey.⁵ The Fire Department currently has 63 sworn firefighters, 18 of whom are licensed paramedics. Each day, 21 trained and qualified personnel are on duty to provide 24-hour protection. Fire service delivery is evenly divided throughout the City by four strategically located fire stations capable of arriving to the scene of an emergency within five minutes of a call.

Station No. 1 is located at 12222 Paramount Boulevard, which is the closest station to the Project site. Fire protection would not be impacted by the proposed Project.

Police Protection. The Downey Police Department (DPD) provides law enforcement services to the City of Downey. The DPD provides a full range of police services. The Police Department headquarters is located in the 10911 Brookshire Avenue. The Los Angeles County Sheriff's Department, based in the City of Lynwood, provides police services for properties owned by the County in the southwest part of the City.⁶

The DPD currently has an authorized strength of 138 sworn staff. About 70% of all sworn officers work in the Field Operations Division, which focuses on patrolling City streets, answering calls for service, and identifying potential crime problems. Police protection is not expected to be impacted by the Project, the intersection improvements at Paramount Boulevard and Imperial Highway.

⁵ Downey Vision 2025 General Plan, 2005, Chapter 5 page 5-11

⁶ Downey Vision 2025 General Plan, 2005, Chapter 5, page 5-14

Public Schools. Public educational services within the City of Downey are provided by the Downey Unified School District.⁷ Public schools will not be impacted by the proposed Project. The Project is an intersection improvement project and will not generate additional population or enrollment in the schools. Therefore, there is no impact.

Parks. The proposed Project does not generate additional population and will not impact parks within the City of Downey. The Project includes improvements to the intersection of Paramount Boulevard and Imperial Highway. The proposed Project will not impact parks, requiring additional facilities.

Other Public Facilities. The proposed Project does not generate additional population that would impact libraries, community centers or other community facilities in the City of Downey. Therefore, there is no impact on other public facilities as a result of the Project.

7 Downey Unified School District website www.dusd.net

XVI. Recreation

The Recreation section analyzes whether the proposed Project would trigger the need for additional recreational facilities within the community. The section also evaluates the impact on use of existing neighborhood or regional parks.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** Parks within Downey are generally well distributed and well used throughout the City. The proposed Project, intersection improvements at Paramount Boulevard and Imperial Highway, will not impact park facilities in the City.
- b) **No Impact.** The proposed Project does not include recreational facilities or require the expansion or construction of recreational facilities which might have an adverse physical effect on the environment. The Project involves improvements to the intersection of Paramount Boulevard and Imperial Highway and will not adversely affect any recreational facility. The Project, therefore, will have no impact on recreation in the City of Downey.

XVII. Transportation

The Transportation section evaluates whether the Project creates conflicts with the effectiveness of the existing transportation network, any congestion management plan, or creates any design flaws that would substantially increase transportation hazards.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The proposed Paramount Boulevard/Imperial Highway Intersection Improvement Project is consistent with the City of Downey Vision 2025 General Plan. The Project is consistent with Mitigation Measure 5.9-7 of the Downey Vision 2025 General Plan DEIR⁸. The Project does not conflict with any adopted plan, ordinance or policy adopted by the City of Downey. Therefore, the Project has no impact.
- b) **No Impact.** Paramount Boulevard and Imperial Highway are not among the roadway links included in the Los Angeles County Congestion Management Program (CMP) Highway and Roadway System⁹. Therefore, there is no impact from the Paramount Boulevard/Imperial Highway Intersection Improvement Project on level of service standards, travel demand measures or other standards established by the County CMP or by Metro, the Congestion Management Agency for Los Angeles County.
- c) **No Impact.** The Paramount Boulevard/Imperial Highway Intersection Improvement Project is not located near an airport and would not result in a change in air traffic patterns, including either an

⁸ Downey Vision 2025 General Plan DEIR, 2004, page 5-235

⁹ 2010 Congestion Management Program for Los Angeles County, page 13

increase in traffic levels or a change in location that would result in substantial safety risks. Therefore, there is no impact from this Project.

- d) **No Impact.** The Project does not include a design feature such as sharp curves or dangerous intersections that would substantially increase hazards. The Project footprint is straight sections of roadway that would retain the intersections that exist in the Project area today. Therefore, there is no impact from the proposed Project.
- e) **No Impact.** The Project would not result in inadequate emergency access to the area. The Project proposes to maintain the width of the roadway that meets clearance requirements for emergency vehicles. Therefore, there will be no impacts to emergency access in the Project area.
- f) **No Impact.** The Project does not conflict with adopted policies, plans and programs for public transit, bicycle or pedestrian facilities. Therefore, there is no negative impact from the Project.

XVIII. Tribal Cultural Resources

This section analyzes whether the Project would impact tribal cultural resources and documents notification of Native American Tribal representatives and consultation that occurred.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The City of Downey sent Project notification letters to six tribal groups, including the Soboba Band of Luiseno Indians, Gabrieliño Tongva Nation, Gabrielino Tongva Tribe, Gabrielino Band of Mission Indians, and Gabrielino Tongva San Gabriel Band of Mission Indians, and the Gabrielino Band of Mission Indians – Kizh Nation. None of the tribes requested consultation on the Project. Additionally, Archaeological Resources Management Corporation produced a Phase 1 Archaeological Assessment (December 9, 2019; Appendix B) of the Project area and concluded that no cultural resources have been identified on the Project site. Therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource and there is no impact.
- i) There are no tribal cultural resources on the Project site listed or eligible for listing in the California Register of Historical Resources or in a register of local historical resources.
- ii) There are no resources determined by the lead agency to be significant on the Project site, which is an existing roadway through a portion of the southwest area of the City.

XIX. Utilities and Service Systems

The Utilities and Service Systems section evaluates the proposed Project's impacts on utilities and provision of municipal waste management services. Specifically, the section analyzes whether the proposed Project would trigger the need for additional facilities or whether capacity exists to support the Project.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project itself, intersection improvements at Paramount Boulevard and Imperial Highway, would not generate wastewater that would exceed the wastewater treatment requirements of the Los Angeles County Regional Water Quality Control Board or exceed the treatment capacity available through agencies such as the Los Angeles County Sanitation District or the Joint Water Pollution Control Plant located in the City of Cerritos that treat wastewater in the City of Downey. The Project is basically a street project that would not generate new wastewater or affect the sanitation system in the City. Therefore, there is no impact from the Project.
- b) **No Impact.** The Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. The intersection improvements will not create wastewater or require the construction of new facilities or expansion of existing facilities to handle an increase in wastewater. Therefore, there are no impacts in this area.
- c) **No Impact.** The City of Downey is an urbanized community with built drainage systems, including concrete lined washes, underground storm drain systems, and catch basins.¹⁰ Lined washes and underground storm water systems within the City are designed and maintained by the Los Angeles County Department of Public Works. The facilities in the southwest portion of Downey where the

10 Downey Vision 2025 General Plan DEIR, 2004, page 5-45

Project is located drain to the Los Angeles River. Storm water from the Project site drains to the Los Angeles River through storm drains and catch basins. The Project will not generate any additional storm water runoff from what is experienced now. Therefore, there are no impacts.

- d) **No Impact.** Water service in the City of Downey is provided primarily by the City.¹¹ Groundwater is the primary source of water supply for the City drawn from the Central Basin Watermaster and the Water Replenishment District of Southern California. The City does have the capability to draw imported water from the Metropolitan Water District.

The proposed Project is improvements to the intersection of Paramount Boulevard and Imperial Highway. The Project will not trigger the need for new or expanded entitlements or water resources. Therefore, there are no impacts.

- e) **No Impact.** The proposed Project is intersection improvements to Paramount Boulevard at Imperial Highway. The Project itself will not generate wastewater and it will generate no demand on wastewater treatment providers. Therefore, there are no impacts from the proposed Project.
- f) **No Impact.** The Project itself will not generate solid waste because it is primarily a road project. Therefore, impacts from the Project are less than significant.
- g) **No Impact.** The Project will comply with all federal, state, and local statutes and regulations related to solid waste. Therefore, there is no impact from the Project.

11 Downey Vision 2025 General Plan DEIR, 2004, page 5-242

XX. Wildfire

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. Wildfire. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts Analysis

- a) **No Impact.** The Project is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. The Project is located in an urbanized area. The Project would not impair an adopted emergency response or emergency evacuation plan. Therefore, there is no impact.
- b) **No Impact.** The Project involves an intersection improvement at Paramount Boulevard and Imperial Highway in the City of Downey. The Project is on flat ground that does not involve slopes. There are no prevailing winds or other factors that would exacerbate wildfire risks. Therefore, there are no impacts.
- c) **No Impact.** The Project is a road intersection improvement that would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that could exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Therefore, there are no impacts.
- d) **No Impact.** As an intersection improvement, the Project will not expose people or structures to significant fire risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, there are no impacts.

XXI. Mandatory Findings of Significance

This section includes questions designed to establish whether the proposed Project has effects significant enough to impact the environment negatively. It also addresses the issues of short-term versus long-term environmental goals and cumulative impacts of proposed projects.

Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XXI. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Does the Project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) **No Impact.** On the basis of the foregoing analysis, the proposed Project does not have the potential to significantly degrade the quality of the environment. The Project site does not contain any habitat of fish or wildlife species that would be impacted by the Project. The site is located in an urbanized setting. The proposed Project consists of improvements to the intersection of Paramount Boulevard and Imperial Highway in the City of Downey. The Project is compatible with the surrounding land uses. The Project will not impact any sensitive or special status habitat and/or wildlife species.
- b) **No Impact.** No cumulative impacts are anticipated in connection with this and other projects. The Project is consistent with the City's General Plan transportation strategies. The Project will not result in environmental effects which are cumulatively considerable since the proposal is consistent with the goals and policies of the City's General Plan. The Project does not have any impact on projected growth and planned projects for the City of Downey as of the date of this analysis. Recommended mitigation measures as well as the Project design will reduce all potential impacts to a level of less than significant. Therefore, it is not anticipated that the Project will result in significant cumulative impacts.
- c) **No Impact.** There are no known substantial adverse effects on human beings that would be caused by the proposed Project. The Project is consistent with the land uses in the Project area and the environmental evaluation has concluded that no adverse significant environmental impacts will result from the Project.

- d) **No Impact.** The site is located in a developed area that already provides transportation infrastructure that the proposed Project will improve. There are no long-term environmental goals that would be compromised by the Project. The Project does not have the potential to achieve short-term goals to the disadvantage of long-term goals.

Note: Authority cited: Sections 21083 and 21083.05, 21083.09 Public Resources Code. Reference: Section 65088.4, Gov. Code; Sections 21073, 21074 21080(c), 21080.1, 21080.3, 21083, 21083.05, 21083.3, 21080.3.1, 21080.3.2, 21082.3, 21084.2, 21084.3, 21093, 21094, 21095, and 21151, Public Resources Code; Sundstrom v. County of Mendocino, (1988) 202 Cal.App.3d 296; Leonoff v. Monterey Board of Supervisors, (1990) 222 Cal.App.3d 1337; Eureka Citizens for Responsible Govt. v. City of Eureka (2007) 147 Cal.App.4th 357; Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th at 1109; San Franciscans Upholding the Downtown Plan v. City and County of San Francisco (2002) 102 Cal.App.4th 656.

**Appendix A –
Air Quality and GHG Impact Analysis**

AIR QUALITY and GHG IMPACT ANALYSES
INTERSECTION OF IMPERIAL HIGHWAY AND PARAMOUNT BOULEVARD
IMPROVEMENT PROJECT
CITY OF DOWNEY, CALIFORNIA

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Date:

January 24, 2020

Project No.: P19-042 AQ

METEOROLOGICAL SETTING

REGIONAL CLIMATE

The North Pacific high-pressure cell is the dominant climatic influence over the eastern North Pacific Ocean, particularly during the summer. This semi-permanent high-pressure cell produces a predominantly northwesterly flow of maritime air over the coastal waters of California. During winter, the Pacific High weakens and moves south, resulting in weaker and less persistent northwesterly winds along the California coast than in the warmer half of the year.

As the air mass approaches the coast of California, this large-scale circulation pattern is modified by local influences. The differential heating between the desert and the adjacent Pacific Ocean modifies the prevailing winds, enhancing the winds during the warmer half of the year and weakening them during the colder portion. On a localized and sub-regional basis, the airflow in California is channeled by its mountain ranges and valleys. The coastal mountain ranges limit the flow of maritime air into the interior of California. This transition from a cool and damp marine environment to a dry and warm continental climate therefore occurs over a fairly short distance.

SOUTH COAST AIR BASIN

The South Coast Air Basin (SCAB) is a 6,600 square mile coastal plain bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Basin-wide conditions are characterized by warm summers, mild winters, infrequent rainfall, moderate onshore daytime breezes, and moderate humidities.

All seasons generally exhibit onshore flows during the day and offshore flows at night, after the land cools below the temperature of the ocean. The likelihood of strong offshore flows, including Santa Ana winds, is greater during winter than during summer (California Air Resources Board 1984).

The topography and climate of Southern California combine to produce unhealthful air quality in the South Coast Air Basin. Low temperature inversion, light winds, shallow vertical mixing, and extensive sunlight, in conjunction with topographical features such as adjacent mountain ranges that hinder dispersion of air pollutants, combine to create degraded quality, especially in inland valleys of the basin.

LOCAL METEOROLOGY

Temperatures in Downey average a very comfortable 63 degrees year-round. Summer afternoons are typically in the middle 80s, and winter mornings may drop to the low- to mid-40s. Significant extremes of temperature are rare. Rainfall in Downey averages 14 inches of rain during a normal year. Almost all the rainfall comes from the fringes of mid-latitude storms from late November to early April with summers often completely dry.

Winds in the Downey area blow primarily from southwest to northeast by day and from northeast to the southwest at night in response to the regional pattern of onshore flow by day and offshore flow at night. Average wind speeds are 5 mph, reaching 8 to 10 mph in the afternoon, but dropping to near-calm conditions at night. In the late afternoon, the winds from the southwest are replaced by a marine air “push” from the South Bay around the northern side of the Palos Verdes Peninsula. Strongest onshore flow across Downey in the late afternoon is, therefore, more from west-northwest.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to "non-attainment" for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards ¹		National Standards ²		
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	—	—	35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m ³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m ³)		9 ppm (10 mg/m ³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—	—	
Nitrogen Dioxide (NO ₂) ¹⁰	1 Hour	0.18 ppm (339 µg/m ³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m ³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)		0.053 ppm (100 µg/m ³)	Same as Primary Standard	
Sulfur Dioxide (SO ₂) ¹¹	1 Hour	0.25 ppm (655 µg/m ³)	Ultraviolet Fluorescence	75 ppb (196 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm (for certain areas) ¹¹	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) ¹¹	—	
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m ³ (for certain areas) ¹²	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m ³		
Visibility Reducing Particles ¹⁴	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

See footnotes on next page ...

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above $150 \mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from $15 \mu\text{g}/\text{m}^3$ to $12.0 \mu\text{g}/\text{m}^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at $35 \mu\text{g}/\text{m}^3$, as was the annual secondary standard of $15 \mu\text{g}/\text{m}^3$. The existing 24-hour PM10 standards (primary and secondary) of $150 \mu\text{g}/\text{m}^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ($1.5 \mu\text{g}/\text{m}^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990

California Air Resources Board (5/4/16)

Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter. 	<ul style="list-style-type: none"> • Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions. 	<ul style="list-style-type: none"> • Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight. 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil. 	<ul style="list-style-type: none"> • Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Respirable Particulate Matter (PM-10)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions. 	<ul style="list-style-type: none"> • Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	<ul style="list-style-type: none"> • Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NO_x, sulfur oxides, and organics. 	<ul style="list-style-type: none"> • Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes. 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide (NO₂) that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO₂ standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 µg/m³ to 12 µg/m³ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. A new 8-hour ozone standard was adopted in 2015 after extensive analysis and public input. The adopted national 8-hour ozone standard is 0.07 ppm which matches the current California standard. It will require three years of ambient data collection, then 2 years of non-attainment findings and planning protocol adoption, then several years of plan development and approval. Final air quality plans for the new standard are likely to be adopted around 2022. Ultimate attainment of the new standard in ozone problem areas such as Southern California might be after 2025.

In 2010 a new federal one-hour primary standard for nitrogen dioxide (NO₂) was adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO₂) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO₂ is typically not a problem pollutant.

BASELINE AIR QUALITY

Long-term air quality monitoring is carried out by the South Coast Air Quality Management District (SCAQMD) at various monitoring stations. There are no nearby stations that monitor the full spectrum of pollutants. Ozone, carbon monoxide, PM-2.5 and nitrogen oxides are monitored at the Pico Rivera facility, while 10-micron diameter particulate matter (PM-10) is measured at the downtown Los Angeles station. Table 3 summarizes the last five years of monitoring data from a composite of these data resources. The following conclusions can be drawn from this data:

- a. Photochemical smog (ozone) levels occasionally exceed standards. The 8-hour state ozone standard as well as the 1-hour state standard have been exceeded on approximately two percent of all days in the past five years. The 8-hour federal standard has been exceeded on less than one percent of days for the same period. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade
- b. Measurements of carbon monoxide have shown very low baseline levels in comparison to the most stringent one- and eight-hour standards.
- c. Respirable dust (PM-10) levels exceed the state standard on approximately eight percent of measurement days, but the less stringent federal PM-10 standard has not been violated once for the same period. Year to year fluctuations of overall maximum 24-hour PM-10 levels seem to follow no discernable trend, though 2017 had the highest maximum 24-hour concentration and largest number of violations of the state standard in recent history.
- d. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). There have been only six violations of the maximum 24-hour concentration of all measurement days in the last five years. PM-2.5 can be an occasional air quality concern in the project area.

Although complete attainment of every clean air standard is not yet imminent, extrapolation of the steady improvement trend suggests that such attainment could occur within the reasonably near future.

Table 3
Air Quality Monitoring Summary (2014-2018)
(Number of Days Standards Were Exceeded, and
Maximum Levels During Such Violations)

Pollutant/Standard	2014	2015	2016	2017	2018
1-Hour > 0.09 ppm (S)	7	6	9	7	3
8-Hour > 0.07 ppm (S)	7	11	6	9	5
8- Hour > 0.075 ppm (F)	5	2	2	4	2
Max. 1-Hour Conc. (ppm)	0.12	0.11	0.11	0.12	0.12
Max. 8-Hour Conc. (ppm)	0.09	0.08	0.08	0.09	0.08
Carbon Monoxide					
1-Hour > 20. ppm (S)	0	0	0	0	0
1-Hour > 9. ppm (S, F)	0	0	0	0	0
Max 8-Hour Conc. (ppm)	2.5	1.7	1.7	2.2	1.8
Nitrogen Dioxide					
1-Hour > 0.18 ppm (S)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.09	0.07	0.06	0.07	0.08
Respirable Particulates (PM-10)					
24-Hour > 50 µg/m ³ (S)	3/58	26/336	18/277	41/340	31/363
24-Hour > 150 µg/m ³ (F)	0/58	0/336	0/277	0/340	0/363
Max. 24-Hr. Conc. (µg/m ³)	66.	88.	67.	96.	81.
Fine Particulates (PM-2.5)					
24-Hour > 35 µg/m ³ (F)	0/116	3/118	2/120	1/119	0/133
Max. 24-Hr. Conc. (µg/m ³)	35.1	52.7	46.6	49.5	35.4

S=State Standard
F=Federal Standard

Source: South Coast AQMD – Pico Rivera Air Monitoring Station for Ozone, CO, NOx and PM-2.5
Downtown Los Angeles Monitoring Station for PM-10
data: www.arb.ca.gov/adam/

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with “serious” or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised and approved over the past decade. The most current regional attainment emissions forecast for ozone precursors (ROG and NO_x) and for carbon monoxide (CO) and for particulate matter are shown in Table 4. Substantial reductions in emissions of ROG, NO_x and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air “blueprint” in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to “slip” from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because projected attainment by 2021 required control technologies that did not exist yet, the SCAQMD requested a voluntary “bump-up” from a “severe non-attainment” area to an “extreme non-attainment” designation for ozone. The extreme designation was to allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on “black-box” measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from “severe-17” to “extreme.” This reclassification set a later attainment deadline (2024), but also required the air basin to adopt even more stringent emissions controls.

Table 4
South Coast Air Basin Emissions Forecasts (Emissions in tons/day)

Pollutant	2015^a	2020^b	2025^b	2030^b
NOx	357	289	266	257
VOC	400	393	393	391
PM-10	161	165	170	172
PM-2.5	67	68	70	71

^a2015 Base Year.

^bWith current emissions reduction programs and adopted growth forecasts.

Source: California Air Resources Board, 2013 Almanac of Air Quality

In other air quality attainment plan reviews, EPA had disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA stated that the current attainment plan relied on PM-2.5 control regulations that had not yet been approved or implemented. It was expected that a number of rules that were pending approval would remove the identified deficiencies. If these issues were not resolved within the next several years, federal funding sanctions for transportation projects could result. The 2012 AQMP included in the current California State Implementation Plan (SIP) was expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked almost ten years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now required to develop an AQMP for the long since revoked one-hour federal ozone standard. Because the current SIP for the basin contains a number of control measures for the 8-hour ozone standard that are equally effective for one-hour levels, the 2012 AQMP was believed to satisfy hourly attainment planning requirements.

AQMPs are required to be updated every three years. The 2012 AQMP was adopted in early 2013. An updated AQMP was required for completion in 2016. The 2016 AQMP was adopted by the SCAQMD Board in March, 2017, and has been submitted the California Air Resources Board for forwarding to the EPA. The 2016 AQMP acknowledges that motor vehicle emissions have been effectively controlled and that reductions in NOx, the continuing ozone problem pollutant, may need to come from major stationary sources (power plants, refineries, landfill flares, etc.) . The current attainment deadlines for all federal non-attainment pollutants are now as follows:

8-hour ozone (70 ppb)	2032
Annual PM-2.5 (12 µg/m ³)	2025
8-hour ozone (75 ppb)	2024 (old standard)
1-hour ozone (120 ppb)	2023 (rescinded standard)
24-hour PM-2.5 (35 µg/m ³)	2019

The key challenge is that NO_x emission levels, as a critical ozone precursor pollutant, are forecast to continue to exceed the levels that would allow the above deadlines to be met. Unless additional stringent NO_x control measures are adopted and implemented, ozone attainment goals may not be met.

The proposed project does not directly relate to the AQMP in that there are no specific air quality programs or regulations governing roadway improvement projects. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

AIR QUALITY IMPACT

Air quality impacts are considered “significant” if they cause clean air standards to be violated where they are currently met, or if they “substantially” contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

- a. Conflicts with or obstructs implementation of the applicable air quality plan.
- b. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- c. Exposes sensitive receptors to substantial pollutant concentrations.
- d. Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions

that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Table 5
Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

Additional Indicators

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation
- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.
- Project could generate vehicle trips that cause a CO hot spot.

Roadway improvements are not anticipated to substantially alter traffic flow and associated air pollution emissions. Any measurable air quality impacts would therefore likely only result from project construction activities.

Sensitive Uses

Several legs have adjacent sensitive residential uses as follows:

North of Intersection

12533 Paramount Blvd SFR Condo (2 buildings)	21' from TCE,	40' from work limit
12542 Paramount Blvd, Aspen Place Apts	62' from work limit	
12527 Paramount Blvd Athens Apts	26' from work limit	

East of Intersection (does not directly front construction but is close to the construction limit)

12603 Block Ave SFR	100' from work limit
---------------------	----------------------

South of Intersection

12620 Paramount Blvd SFR	65' from work limit
7957 Lyndora St SFR	52' from work limit

West of Intersection

No adjacent sensitive uses

TCE=Temporary Construction Easement

CONSTRUCTION ACTIVITY IMPACTS

CalEEMod was developed by the SCAQMD to provide a computer model by which to calculate both construction emissions and operational emissions from a variety of land use projects. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions.

Although exhaust emissions will result from on and off-site construction equipment, the exact types and numbers of equipment will vary among contractors such that such emissions cannot be quantified with certainty. Estimated construction emissions were modeled using CalEEMod2016.3.2 to identify maximum daily emissions for each pollutant during project construction using an equipment fleet for typical project activities.

All four legs of the intersection will be widened to provide sufficient road width for vehicular U-turn movements. The intersection itself will be reconstructed with concrete pavement and decorative concrete crosswalks will be added along with modified traffic signals and striping, signing and pavement markings, street lighting and upgraded bus shelters and furnishings.

Construction is estimated to require 6 months. The durations and equipment shown in Table 6 were modeled in CalEEMod for this project.

Table 6**Construction Activity Equipment Fleet**

Phase Name and Duration	Equipment
Demo (30 days)	1 Concrete Saw
	1 Dozer
	3 Loader/Backhoes
Grading (30 days)	1 Grader
	1 Dozer
	1 Loader/Backhoe
Underground Utilities (30 days)	1 Crane
	1 Welder
	1 Forklift
Paving and Median Construction (3 months)	1 Mixer
	1 Paver
	1 Paving Equipment
	1 Rollers
	1 Loader/Backhoe

Utilizing this indicated equipment fleet and durations shown above, the following worst-case daily construction emissions are calculated by CalEEMod as shown in Table 7.

Table 7**Construction Activity Emissions
Maximum Daily Emissions (pounds/day)**

Maximal Construction Emissions	ROG	NO_x	CO	SO₂	PM-10	PM-2.5
Year 2021						
Unmitigated	2.2	19.8	16.0	0.0	5.7	3.2
Mitigated	2.2	19.8	16.0	0.0	2.9	1.7
SCAQMD Thresholds	75	100	550	150	150	55

Peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds. The only mitigation measure modeled is as follows:

- Exposed surfaces will be watered three times per day during grading activities

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the majority of diesel exhaust would occur. Health risk analyses are typically assessed over a 9-, 30-, or 70-year timeframe and not over a relatively brief construction period due to the lack of health risk associated with such a brief exposure.

LOCALIZED SIGNIFICANCE THRESHOLDS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LST screening tables are available for 25, 50, 100, 200 and 500 meter source-receptor distances. For this project the adjacent residential uses are the considered the closest sensitive receptors such that the most conservative 25-meter distance was modeled. LST pollutant screening level concentration data is also dependent on site size. For this project data for the most conservative 1-acre site was used.

The following thresholds and emissions in Table 8 are therefore determined (pounds per day):

Table 8
LST and Project Emissions (pounds/day)

LST 1.0 acres/25 meters SE LA County	CO	NO_x	PM-10	PM-2.5
Allowable On-Site Emissions	571	80	4	3
Modeled On-Site Emissions				
Unmitigated	16	20	6	3
Mitigated	16	20	3	2

CalEEMod Output in Appendix

LSTs were compared to the maximum daily construction activities. As seen above, emissions will meet the LST for construction thresholds with the application of the following mitigation measure:

- Exposed surfaces will be watered three times per day during grading activities

LST impacts are less-than-significant with the application of this mitigation measure.

OPERATIONAL IMPACTS

No substantial changes in traffic patterns would result from project implementation. Minimal changes in roadway utilization would result from traffic flow improvements, enhanced aesthetics and small safety benefits. Because the vehicular wait time at the intersection would decrease as evidenced by the LOS data, the project is considered air quality positive. Operational air quality impacts would not be considered “substantial” in a CEQA sense.

CONSTRUCTION EMISSIONS MINIMIZATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, emissions minimization through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin and proximity to existing residential uses. Recommended measures include:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive areas.
- Prepare a high wind dust control plan.
- Address previously disturbed areas if subsequent construction is delayed.
- Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2-3 times/day).
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NO_x) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Combustion emissions control options include:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or better heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

GREENHOUSE GAS EMISSIONS

“Greenhouse gases” (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as “global warming.” These greenhouse gases contribute to an increase in the temperature of the earth’s atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statutes and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California’s reputation as a “national and international leader on energy conservation and environmental stewardship.” It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate “early action” control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California’s GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and

off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

THRESHOLDS OF SIGNIFICANCE

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,
- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to “select the model or methodology it considers most appropriate.” The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO₂ equivalent/year. In September 2010, the SCAQMD CEQA Significance Thresholds GHG Working Group released revisions which recommended a threshold of 3,000 MT CO₂e for all land use projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis. In the absence of an adopted numerical threshold of significance, project related GHG emissions in excess of the guideline level are presumed to trigger a requirement for enhanced GHG reduction at the project level.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

The project is assumed to be built in approximately six months. During project construction, the CalEEMod2016.3.2 computer model predicts that the construction activities will generate the annual CO₂e emissions identified in Table 9.

Table 9
Construction Emissions (Metric Tons CO₂e)

	CO₂e
Year 2021	102.9
Amortized	3.4

CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are less-than-significant. Hence, the project will not result in generation of a significant level of greenhouse gases.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

The City of Downey adopted an Energy Action Plan in 2017 focusing on the energy efficiency as a means to lower GHG emissions. However, this approach is not applicable for this roadway improvement project which will have no associated operational emissions. The City has not adopted regulations for the purpose of reducing GHGs applicable to this project. The applicable GHG planning document is AB-32. As discussed above, the project is not expected to result in a significant increase in GHG emissions. As a result, the project results in GHG emissions below the recommended SCAQMD 3,000 ton threshold. Therefore, the project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions.

CALEEMOD2016.3.2 COMPUTER MODEL OUTPUT

- **DAILY EMISISONS**
- **ANNUAL EMISSIONS**

Paramount and Imperial Improvements - South Coast Air Basin, Summer

Paramount and Imperial Improvements
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - roadway proj
- Construction Phase - 1 month demo, 1 month grading, 1 month move underground utilities, 3 months paving and median construction
- Off-road Equipment - added phase
- Off-road Equipment -
- Trips and VMT - 40 daily worker trips
- Construction Off-road Equipment Mitigation -

Paramount and Imperial Improvements - South Coast Air Basin, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	PhaseEndDate	3/14/2022	7/27/2021
tblConstructionPhase	PhaseEndDate	6/7/2021	6/29/2021
tblConstructionPhase	PhaseEndDate	3/28/2022	10/22/2021
tblConstructionPhase	PhaseStartDate	6/8/2021	6/30/2021
tblConstructionPhase	PhaseStartDate	3/15/2022	8/1/2021
tblGrading	AcresOfGrading	7.50	1.50
tblLandUse	LotAcreage	0.00	1.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Underground Utilities
tblOffRoadEquipment	PhaseName		Underground Utilities
tblOffRoadEquipment	PhaseName		Underground Utilities
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	13.00	40.00
tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	13.00	40.00

2.0 Emissions Summary

Paramount and Imperial Improvements - South Coast Air Basin, Summer

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.1604	19.8058	15.9944	0.0286	5.0432	1.0442	5.6844	2.6098	0.9745	3.1998	0.0000	2,765.4764	2,765.4764	0.6059	0.0000	2,780.6234
Maximum	2.1604	19.8058	15.9944	0.0286	5.0432	1.0442	5.6844	2.6098	0.9745	3.1998	0.0000	2,765.4764	2,765.4764	0.6059	0.0000	2,780.6234

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.1604	19.8058	15.9944	0.0286	2.2396	1.0442	2.8808	1.0902	0.9745	1.6801	0.0000	2,765.4764	2,765.4764	0.6059	0.0000	2,780.6234
Maximum	2.1604	19.8058	15.9944	0.0286	2.2396	1.0442	2.8808	1.0902	0.9745	1.6801	0.0000	2,765.4764	2,765.4764	0.6059	0.0000	2,780.6234

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.59	0.00	49.32	58.23	0.00	47.49	0.00	0.00	0.00	0.00	0.00	0.00

Paramount and Imperial Improvements - South Coast Air Basin, Summer

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000	0.0000	2.3000e-004

Paramount and Imperial Improvements - South Coast Air Basin, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	5/28/2021	5	20	
2	Grading	Grading	6/2/2021	6/29/2021	5	20	
3	Underground Utilities	Trenching	6/30/2021	7/27/2021	5	20	
4	Paving and Median Construction	Paving	8/1/2021	10/22/2021	5	60	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 1.5****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Paramount and Imperial Improvements - South Coast Air Basin, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving and Median Construction	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Underground Utilities	Cranes	1	6.00	231	0.29
Underground Utilities	Forklifts	1	6.00	89	0.20
Paving and Median Construction	Pavers	1	6.00	130	0.42
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving and Median Construction	Paving Equipment	1	8.00	132	0.36
Grading	Graders	1	6.00	187	0.41
Paving and Median Construction	Rollers	1	7.00	80	0.38
Underground Utilities	Welders	1	8.00	46	0.45
Paving and Median Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving and Median Construction	5	40.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	7	40.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.2 Demolition - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.717 1	2,322.717 1	0.5940		2,337.565 8
Total	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.717 1	2,322.717 1	0.5940		2,337.565 8

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.2 Demolition - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.717 1	2,322.717 1	0.5940		2,337.565 8
Total	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.717 1	2,322.717 1	0.5940		2,337.565 8

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1674	0.1092	1.5019	4.4400e- 003	0.4471	3.3100e- 003	0.4504	0.1186	3.0500e- 003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1674	0.1092	1.5019	4.4400e- 003	0.4471	3.3100e- 003	0.4504	0.1186	3.0500e- 003	0.1216		442.7593	442.7593	0.0119		443.0577

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.3 Grading - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	1.2884	14.3307	6.3314	0.0141	4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141	4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000
Total	1.2884	14.3307	6.3314	0.0141	4.5961	0.0000	4.5961	2.4913	0.0000	2.4913			0.0000			0.0000

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216			442.7593	0.0119		443.0577
Total	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216			442.7593	0.0119		443.0577

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.3 Grading - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust	1.2884	14.3307	6.3314	0.0141	1.7925	0.0000	1.7925	0.9716	0.0000	0.9716	0.0000		0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141	1.7925	0.0000	1.7925	0.9716	0.0000	0.9716	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	1.2884	14.3307	6.3314	0.0141	1.7925	0.6379	2.4304	0.9716	0.5869	1.5585	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.4 Underground Utilities - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7093	6.0303	4.0818	8.0300e-003		0.2846	0.2846		0.2677	0.2677		737.5549	737.5549	0.1985		742.5163
Total	0.7093	6.0303	4.0818	8.0300e-003		0.2846	0.2846		0.2677	0.2677		737.5549	737.5549	0.1985		742.5163

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8100e-003	0.0958	0.0233	2.5000e-004	6.4000e-003	2.0000e-004	6.5900e-003	1.8400e-003	1.9000e-004	2.0300e-003		27.0744	27.0744	1.6700e-003		27.1162
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1702	0.2050	1.5251	4.6900e-003	0.4535	3.5100e-003	0.4570	0.1204	3.2400e-003	0.1237		469.8337	469.8337	0.0136		470.1739

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.4 Underground Utilities - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7093	6.0303	4.0818	8.0300e-003		0.2846	0.2846		0.2677	0.2677	0.0000	737.5549	737.5549	0.1985		742.5163
Total	0.7093	6.0303	4.0818	8.0300e-003		0.2846	0.2846		0.2677	0.2677	0.0000	737.5549	737.5549	0.1985		742.5163

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	2.8100e-003	0.0958	0.0233	2.5000e-004	6.4000e-003	2.0000e-004	6.5900e-003	1.8400e-003	1.9000e-004	2.0300e-003		27.0744	27.0744	1.6700e-003		27.1162
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1702	0.2050	1.5251	4.6900e-003	0.4535	3.5100e-003	0.4570	0.1204	3.2400e-003	0.1237		469.8337	469.8337	0.0136		470.1739

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.5 Paving and Median Construction - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153	0.3830	0.3830	0.3830		1,296.866 ₄	1,296.866 ₄	0.4111		1,307.144 ₂
Paving	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153	0.3830	0.3830	0.3830		1,296.866₄	1,296.866₄	0.4111		1,307.144₂

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0141	0.4788	0.1163	1.2600e-003	0.0320	9.8000e-004	0.0330	9.2100e-003	9.3000e-004	0.0102		135.3719	135.3719	8.3700e-003		135.5812
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1815	0.5880	1.6182	5.7000e-003	0.4791	4.2900e-003	0.4834	0.1278	3.9800e-003	0.1318		578.1312	578.1312	0.0203		578.6388

Paramount and Imperial Improvements - South Coast Air Basin, Summer

3.5 Paving and Median Construction - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.866 ₄	1,296.866 ₄	0.4111		1,307.144 ₂
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7739	7.7422	8.8569	0.0135		0.4153	0.4153		0.3830	0.3830	0.0000	1,296.866₄	1,296.866₄	0.4111		1,307.144₂

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0141	0.4788	0.1163	1,2600e-003	0.0320	9.8000e-004	0.0330	9.2100e-003	9.3000e-004	0.0102		135.3719	135.3719	8.3700e-003		135.5812
Worker	0.1674	0.1092	1.5019	4.4400e-003	0.4471	3.3100e-003	0.4504	0.1186	3.0500e-003	0.1216		442.7593	442.7593	0.0119		443.0577
Total	0.1815	0.5880	1.6182	5.7000e-003	0.4791	4.2900e-003	0.4834	0.1278	3.9800e-003	0.1318		578.1312	578.1312	0.0203		578.6388

4.0 Operational Detail - Mobile

Paramount and Imperial Improvements - South Coast Air Basin, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT		Annual VMT	
User Defined Industrial	0.00	0.00	0.00				
Total	0.00	0.00	0.00				

4.3 Trip Type Information

Land Use	Miles				Trip %				Trip Purpose %			
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by			
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0			

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

Paramount and Imperial Improvements - South Coast Air Basin, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Paramount and Imperial Improvements - South Coast Air Basin, Summer

5.2 Energy by Land Use - NaturalGas**Unmitigated**

Land Use	NaturalGas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

Land Use	NaturalGas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																	
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

Paramount and Imperial Improvements - South Coast Air Basin, Summer

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Paramount and Imperial Improvements - South Coast Air Basin, Summer

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Paramount and Imperial Improvements - South Coast Air Basin, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Paramount and Imperial Improvements - South Coast Air Basin, Annual

Paramount and Imperial Improvements
South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW/hr)	702.44	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - roadway proj

Construction Phase - 1 month demo, 1 month grading, 1 month move underground utilities, 3 months paving and median construction

Off-road Equipment - added phase

Off-road Equipment -

Trips and VMT - 40 daily worker trips

Construction Off-road Equipment Mitigation -

Paramount and Imperial Improvements - South Coast Air Basin, Annual

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	4.00	20.00
tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	PhaseEndDate	3/14/2022	7/27/2021
tblConstructionPhase	PhaseEndDate	6/7/2021	6/29/2021
tblConstructionPhase	PhaseEndDate	3/28/2022	10/22/2021
tblConstructionPhase	PhaseStartDate	6/8/2021	6/30/2021
tblConstructionPhase	PhaseStartDate	3/15/2022	8/1/2021
tblGrading	AcresOfGrading	7.50	1.50
tblLandUse	LotAcreage	0.00	1.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		Underground Utilities
tblOffRoadEquipment	PhaseName		Underground Utilities
tblOffRoadEquipment	PhaseName		Underground Utilities
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	13.00	40.00
tblTripsAndVMT	WorkerTripNumber	8.00	40.00
tblTripsAndVMT	WorkerTripNumber	18.00	40.00
tblTripsAndVMT	WorkerTripNumber	13.00	40.00

2.0 Emissions Summary

Paramount and Imperial Improvements - South Coast Air Basin, Annual

2.1 Overall Construction**Unmitigated Construction**

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
2021	0.0736	0.6558	0.6025	1.1600e-003	0.0733	0.0323	0.1056	0.0322	0.0300	0.0622	0.0000	102.2855	102.2855	0.0233	0.0000	102.8667
Maximum	0.0736	0.6558	0.6025	1.1600e-003	0.0733	0.0323	0.1056	0.0322	0.0300	0.0622	0.0000	102.2855	102.2855	0.0233	0.0000	102.8667

Mitigated Construction

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
2021	0.0736	0.6558	0.6025	1.1600e-003	0.0453	0.0323	0.0776	0.0170	0.0300	0.0470	0.0000	102.2854	102.2854	0.0233	0.0000	102.8666
Maximum	0.0736	0.6558	0.6025	1.1600e-003	0.0453	0.0323	0.0776	0.0170	0.0300	0.0470	0.0000	102.2854	102.2854	0.0233	0.0000	102.8666

Year	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	38.25	0.00	26.54	47.20	0.00	24.45	0.00	0.00	0.00	0.00	0.00	0.00

Paramount and Imperial Improvements - South Coast Air Basin, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2021	7-31-2021	0.4498	0.4498
2	8-1-2021	9-30-2021	0.2023	0.2023
		Highest	0.4498	0.4498

2.2 Overall Operational**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Paramount and Imperial Improvements - South Coast Air Basin, Annual

2.2 Overall Operational**Mitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Paramount and Imperial Improvements - South Coast Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2021	5/28/2021	5	20	
2	Grading	Grading	6/2/2021	6/29/2021	5	20	
3	Underground Utilities	Trenching	6/30/2021	7/27/2021	5	20	
4	Paving and Median Construction	Paving	8/1/2021	10/22/2021	5	60	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 1.5****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Paramount and Imperial Improvements - South Coast Air Basin, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Paving and Median Construction	Cement and Mortar Mixers	1	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Underground Utilities	Cranes	1	6.00	231	0.29
Underground Utilities	Forklifts	1	6.00	89	0.20
Paving and Median Construction	Pavers	1	6.00	130	0.42
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving and Median Construction	Paving Equipment	1	8.00	132	0.36
Grading	Graders	1	6.00	187	0.41
Paving and Median Construction	Rollers	1	7.00	80	0.38
Underground Utilities	Welders	1	8.00	46	0.45
Paving and Median Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving and Median Construction	5	40.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	7	40.00	1.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Paramount and Imperial Improvements - South Coast Air Basin, Annual

3.2 Demolition - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292

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3.2 Demolition - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292

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3.3 Grading - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust	0.0129	0.1433	0.0633	1.4000e-004	0.0460	0.0000	0.0460	0.0249	0.0000	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1433	0.0633	1.4000e-004	0.0460	0.0000	0.0460	0.0249	0.0000	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0129	0.1433	0.0633	1.4000e-004	0.0460	0.0000	0.0460	0.0249	0.0000	0.0249	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292

Paramount and Imperial Improvements - South Coast Air Basin, Annual

3.3 Grading - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Fugitive Dust	0.0129	0.1433	0.0633	1.4000e-004	0.0179	0.0000	0.0179	9.7200e-003	0.0000	9.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0129	0.1433	0.0633	1.4000e-004	0.0179	0.0000	0.0179	9.7200e-003	0.0000	9.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0129	0.1433	0.0633	1.4000e-004	0.0179	0.0000	0.0179	9.7200e-003	0.0000	9.7200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292

Paramount and Imperial Improvements - South Coast Air Basin, Annual

3.4 Underground Utilities - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	7.0900e-003	0.0603	0.0408	8.0000e-005		2.8500e-003	2.8500e-003		2.6800e-003	2.6800e-003	0.0000	6.6910	6.6910	1.8000e-003	0.0000	6.7360
Total	7.0900e-003	0.0603	0.0408	8.0000e-005		2.8500e-003	2.8500e-003		2.6800e-003	2.6800e-003	0.0000	6.6910	6.6910	1.8000e-003	0.0000	6.7360

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	9.7000e-004	2.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2428	0.2428	2.0000e-005	0.0000	0.2432
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6900e-003	2.2000e-003	0.0142	4.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.0694	4.0694	1.2000e-004	0.0000	4.0724

Paramount and Imperial Improvements - South Coast Air Basin, Annual

3.4 Underground Utilities - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	7.0900e-003	0.0603	0.0408	8.0000e-005		2.8500e-003	2.8500e-003		2.6800e-003	2.6800e-003	0.0000	6.6910	6.6910	1.8000e-003	0.0000	6.7360
Total	7.0900e-003	0.0603	0.0408	8.0000e-005		2.8500e-003	2.8500e-003		2.6800e-003	2.6800e-003	0.0000	6.6910	6.6910	1.8000e-003	0.0000	6.7360

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	9.7000e-004	2.5000e-004	0.0000	6.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2428	0.2428	2.0000e-005	0.0000	0.2432
Worker	1.6600e-003	1.2300e-003	0.0140	4.0000e-005	4.3900e-003	3.0000e-005	4.4200e-003	1.1700e-003	3.0000e-005	1.2000e-003	0.0000	3.8266	3.8266	1.0000e-004	0.0000	3.8292
Total	1.6900e-003	2.2000e-003	0.0142	4.0000e-005	4.4500e-003	3.0000e-005	4.4900e-003	1.1900e-003	3.0000e-005	1.2200e-003	0.0000	4.0694	4.0694	1.2000e-004	0.0000	4.0724

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3.5 Paving and Median Construction - 2021**Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0232	0.2323	0.2657	4.1000e-004		0.0125	0.0125	0.0115	0.0115	0.0115	0.0000	35.2949	35.2949	0.0112	0.0000	35.5746
Paving	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0232	0.2323	0.2657	4.1000e-004		0.0125	0.0125	0.0115	0.0115	0.0115	0.0000	35.2949	35.2949	0.0112	0.0000	35.5746

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0146	3.6900e-003	4.0000e-005	9.5000e-004	3.0000e-005	9.8000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	3.6421	3.6421	2.3000e-004	0.0000	3.6480
Worker	4.9900e-003	3.7000e-003	0.0419	1.3000e-004	0.0132	1.0000e-004	0.0133	3.5000e-003	9.0000e-005	3.5900e-003	0.0000	11.4798	11.4798	3.1000e-004	0.0000	11.4876
Total	5.4200e-003	0.0183	0.0456	1.7000e-004	0.0141	1.3000e-004	0.0142	3.7700e-003	1.2000e-004	3.8900e-003	0.0000	15.1219	15.1219	5.4000e-004	0.0000	15.1355

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3.5 Paving and Median Construction - 2021**Mitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0232	0.2323	0.2657	4.1000e-004		0.0125	0.0125	0.0115	0.0115	0.0115	0.0000	35.2949	35.2949	0.0112	0.0000	35.5746
Paving	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0232	0.2323	0.2657	4.1000e-004		0.0125	0.0125	0.0115	0.0115	0.0115	0.0000	35.2949	35.2949	0.0112	0.0000	35.5746

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0146	3.6900e-003	4.0000e-005	9.5000e-004	3.0000e-005	9.8000e-004	2.7000e-004	3.0000e-005	3.0000e-004	0.0000	3.6421	3.6421	2.3000e-004	0.0000	3.6480
Worker	4.9900e-003	3.7000e-003	0.0419	1.3000e-004	0.0132	1.0000e-004	0.0133	3.5000e-003	9.0000e-005	3.5900e-003	0.0000	11.4798	11.4798	3.1000e-004	0.0000	11.4876
Total	5.4200e-003	0.0183	0.0456	1.7000e-004	0.0141	1.3000e-004	0.0142	3.7700e-003	1.2000e-004	3.8900e-003	0.0000	15.1219	15.1219	5.4000e-004	0.0000	15.1355

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT		Annual VMT	
User Defined Industrial	0.00	0.00	0.00				
Total	0.00	0.00	0.00				

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.552111	0.043066	0.201891	0.118512	0.015605	0.005863	0.021387	0.031253	0.002087	0.001818	0.004803	0.000708	0.000896

Unmitigated

[illegible]

Mitigated

[illegible]

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail**6.1 Mitigation Measures Area**

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Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

Paramount and Imperial Improvements - South Coast Air Basin, Annual

6.2 Area by SubCategory**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

7.0 Water Detail**7.1 Mitigation Measures Water**

Paramount and Imperial Improvements - South Coast Air Basin, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Paramount and Imperial Improvements - South Coast Air Basin, Annual

7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Paramount and Imperial Improvements - South Coast Air Basin, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

**Appendix B –
Archaeological Assessment**

REPORT OF PHASE I ARCHAEOLOGICAL ASSESSMENT FOR IMPERIAL HIGHWAY AND
PARAMOUNT BOULEVARD INTERSECTION IMPROVEMENTS PROJECT, CITY OF DOWNEY, LOS
ANGELES COUNTY, CALIFORNIA

By:

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Of:

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For:

Hodge & Associates
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December 9, 2019

INTRODUCTION

At the request of Bill Hodge of Hodge & Associates, personnel from Archaeological Resource Management Corporation (ARMC) carried out a Phase I archaeological assessment for the proposed Paramount Boulevard and Imperial Highway Intersection Project in the City of Downey, Los Angeles County. The project calls for a re-design of the intersection to accommodate anticipated growth in traffic through 2035. Dual left turn pockets will be added in the southbound direction along Paramount Boulevard and in the westbound direction along Imperial Highway. All four legs of the intersection will be widened to provide sufficient road width for vehicular U-turn movements. The project includes reconstruction of all four legs of the intersection with concrete pavement for 300 feet on all approaches and 100 feet for all departures. The intersection itself will be reconstructed with concrete pavement and decorative concrete crosswalks will be added along with modified traffic signals and striping, signing and pavement markings, street lighting and upgraded bus shelters and furnishings. There will be partial right of way acquisition required along Imperial Highway and Paramount Boulevard on all four legs of the intersection. Utility relocations and adjustments will also be required to facilitate project construction.

The archaeological assessment for the proposed project consisted of two tasks. First the author conducted a records and literature search on December 3, 2019 at the South Central Coastal Information Center (SCCIC), Department of Anthropology, California State University, Fullerton. She used a ½-mile radius for the study. Its purpose was to discover whether the project area had been previously surveyed for cultural resources and whether any archaeological sites had been recorded in the project vicinity. Following the records search the author carried out a field survey of the project area using Google maps to search for previously unrecorded cultural resources. The findings from the two tasks are included in this technical report.

The author has been certified as a Supervisory Archaeologist by the Society of Professional Archeologists (SOPA) and is a certified member of the Register of Professional Archaeologists (RPA). She has over 40 years of experience in southern California archaeology.

The results of the records and literature search were that the project area had not been previously surveyed for cultural resources and that no significant cultural resources were recorded within or immediately adjacent to the project area. The field survey also did not reveal the presence of any significant cultural resources.

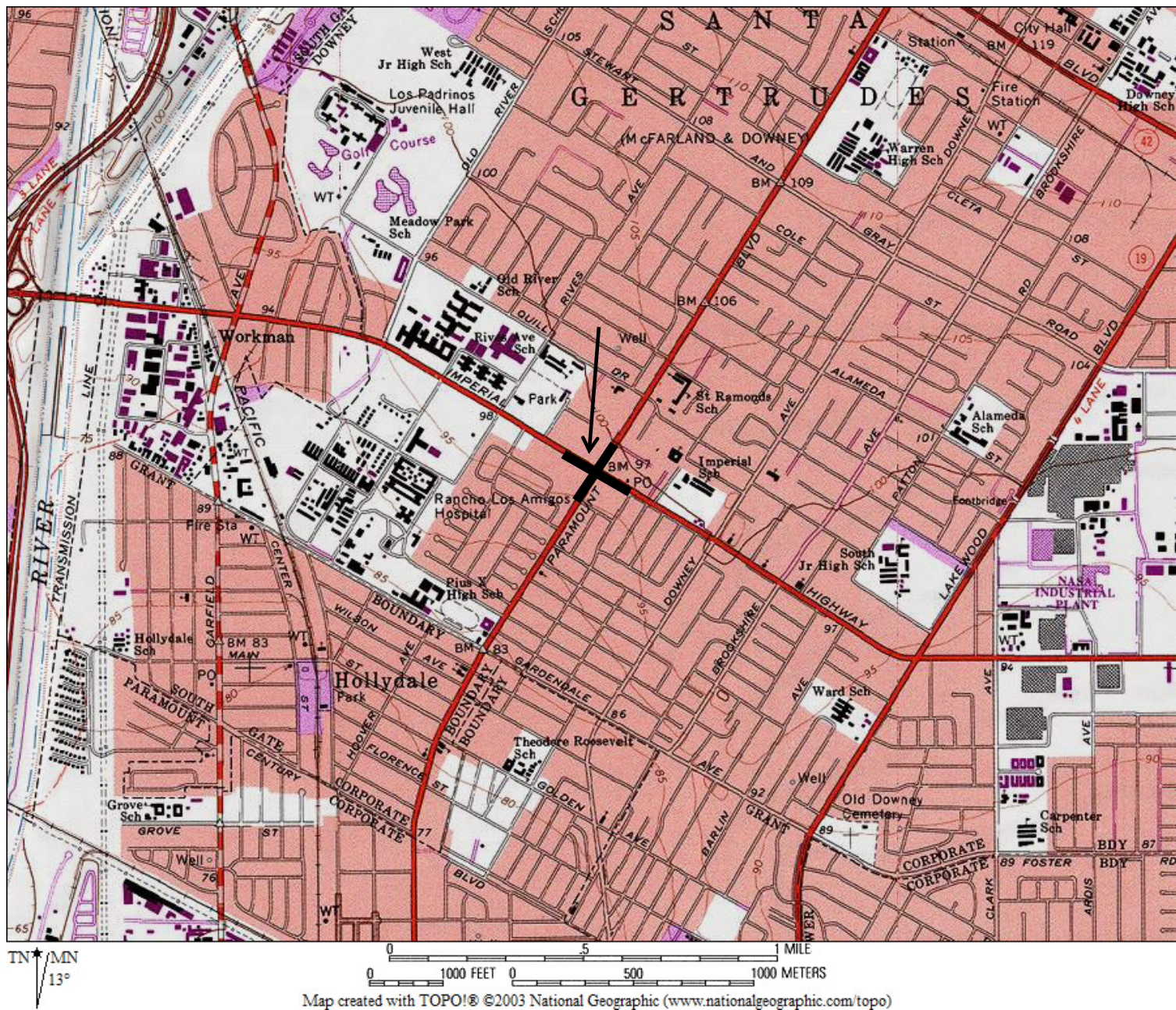
No cultural resources have been recorded within or adjacent to the project area. Three significant historic properties are present within the City of Downey, but none will be impacted by the proposed project. Thus no impacts to significant cultural resources are predicted by the proposed project. No additional research is recommended.

PHYSICAL SETTING

The project area is located in the City of Downey, Los Angeles County. The area includes Imperial Highway and Paramount Boulevard, approximately 400' to the northeast, southeast, southwest, and northwest from the center of the intersection of the two roads (Fig. 1). On the USGS South Gate 7.5 topographic quadrangle, it lies in an un-sectioned area of Range 13W and Township 3S. The area is fully developed.

Located in the Central Plain of the Los Angeles Basin, Downey is part of the Peninsular Ranges Province which stretches southeastward from the basin to the tip of Baja California (Yerkes et al. 1965:A13). The local area is part of the floodplains of the Rio Hondo, Los Angeles River, and San Gabriel River. Elevations in the project vicinity range from at 95 - 100' above mean sea level.

Geologically the project area is underlain by Recent Alluvium (Qal) which consists of alluvium and alluvial fan deposits, including flood plain deposits, marsh deposits, artificial fill, and some natural and artificial beach deposits (Jennings 1962).



Taken from the USGS 7.5' South Gate (1964; PR 1981) topographic quadrangle.

Figure 1. Project Location.

CULTURAL SETTING

Prehistory

Wallace (1955) and Warren (1968) have proposed syntheses of the local cultural sequence. According to these researchers, aboriginal populations in southern California were culturally conservative and remained basically hunter-gatherers throughout the prehistoric period.

The earliest occupation that can be documented for the area north of San Diego is the Early Millingstone Horizon (EMS), or Encinitas. During this early period, a littoral adaptation can be seen. Small native populations subsisted on plant foods, including seeds, tubers, and berries. They also collected shellfish along the coast and embayments, and they hunted small game. They made extensive use of the millingstone and muller, basically mano and metate. Projectile points were few in number, wide, thick, and heavy. They were presumably utilized as spearpoints based on their weights (Fenenga 1953). Cogstones, enigmatic ground discs, serve as one of the time markers for this early period in local prehistory.

In the ensuing cultural period, the Intermediate Horizon (Campbell), local populations expanded their resource base. Hunting and fishing assumed greater importance in the economy, and the mortar and pestle, tools associated with the processing of acorns and other fleshy plant foods, were added to the existing plant processing equipment. Projectile points remained relatively large and heavy.

In the final prehistoric period, the Late Horizon Cultures (Chumash-Gabrielino-Luiseño-Kumeyaay), there is evidence of a marked expansion of local economies. One can observe an increase in cultural elaboration as well as a proliferation of non-utilitarian items in the cultural inventory of local population groups.

The introduction of the sea-going canoe (*tomol*) in the Santa Barbara-Ventura area in Chumash territory ushered in a marine adaptive pattern in vivid contrast to the littoral, or land-locked, pattern of earlier periods. Fishing and hunting of sea mammals assumed greater significance in the subsistence strategies of the northern populations, while populations in the central and southern zones continued to rely primarily upon plants, shellfish, and terrestrial game, which they hunted with small, lightweight arrowpoints and the bow.

The trading of steatite and other lithic resources and the introduction of pottery in the southern zone also characterized the Late Horizon in prehistoric southern California. Pestles and portable mortars, especially of the basket-hopper type, were the dominant grinding tools in the northern zone, while the central and southern zone inhabitants continued to rely upon mano and metate, as well as occasional use of bedrock mortars and grinding slicks (bedrock metates).

Personal ornaments of shell, bone, and stone abounded in the late period. Throughout the southern California region, the Late Horizon was a time of cultural flowering and population growth within the overriding influence of the maritime patterns of the Santa Barbara coast and Channel Islands.

Ethnography

Ethnographically, the study area was occupied by the Tongva, or Gabrielino people, whose territory was said to extend from Topanga Creek in the north to Aliso Creek in the south, and included all of the Los Angeles Basin and most of Orange County (Bean and Smith 1978). Relatively little is known about the culture of the Tongva, although they were thought to be one of the wealthiest and most powerful groups south of the Tehachapi (Kroeber 1925). As of 1900, however, due to disease and assimilation, there were relatively few remaining members of their group.

The Tongva were named Gabrielino because of their association with the Mission San Gabriel. This nominal assignment, imposed by the European missionaries, encompassed a number of loosely affiliated, politically autonomous bands. Linguistically, they were Takic speakers, of the greater the Uto-Aztecan stock, connecting them with peoples occupying eastern California and the Great Basin.

The Gabrielino subsistence base was very broad. The Gabrielino exploited a number of biotic communities ranging from open coast to interior foothills within their territory. Prehistorically, they were thought to occupy villages situated either in flat fertile valleys adjacent to permanent watercourses, or in sheltered coastal areas (Bean and Smith 1978:540). According to Bean and Smith (1978), these villages were occupied permanently, and were surrounded by special satellite camps for the seasonal procurement of resources and by special activity areas. Although little is known about the social and political organization of the Gabrielino, the villages were reported to be "...politically autonomous, composed of non-localized lineages which periodically fragmented into smaller units for the purpose of resource procurement forays (Bean and Smith 1978:543-4).

The Gabrielino economy was centered on a very effective system of food utilization. Plant and animal resources were varied in their locations and in their availability. This variability helped shape the Gabrielino settlement system. Certain resources, such as rabbits and shellfish, were available nearly year-round. Others, such as acorns, ripened seasonally. Collecting groups left the villages and migrated to the acorn groves, where they gathered the wild resources before they rotted or were carried off by animals. Food sharing within and among villages was common. In general coastal populations had access to a wider range of food resources than did inland populations who experienced food stress, especially in the winter months. Gabrielino people were not entirely dependent on natural conditions. Through management of resources, trade, and ritual exchanges, they were able to make the most of the natural environment (McCawley 1996:111-142).

The material culture of the Gabrielino was marked by a highly developed craftsmanship. Even the most utilitarian objects were endowed with aesthetic appeal. They are probably best known for their widespread use of steatite for a variety of items ranging from carved effigies, pipes and ornaments to cooking utensils. Other items of their material culture included ornaments made of shell and bone, basketry, cordage, shell fishhooks, flaked stone arrow points and knives, and plant processing tools such as manos and metates, mortars and pestles (Bean and Smith 1978).

Although their numbers have been reduced, the Gabrielino maintain an active group identity. The Gabrielino/Tongva Tribal Council meets monthly with its members to inform the community of events important to their cultural heritage. Other active Gabrielino organizations include the Ti At Society, the Gabrielino/Tongva Indians of California Tribal Council, and the Coastal Diegueño-Gabrielino Band of Mission Indians.

Local History, City of Downey

The following is taken from the Downey Chamber of Commerce's history of Downey (2018) with additional information from Brandon Speakman (2018) and Bob Thompson (2019).

In the 1800s, Downey was one of many towns to spring up along the thousands of miles of trails to the west. The city derived its name from John Gately Downey, an Irish immigrant who had come to California during the Gold Rush, and succeeded to Governor of California. He helped build the economic foundation of Southern California, effecting a transition from open cattle range to an agricultural district of small farms.

In November 1859, Downey and his former drugstore partner, James McFarland, bought the 17,602 acre Rancho Santa Gertrudes for a mere \$60,000. On October 23, 1873, a 96-acre parcel of the plot became

the central district of a community called “Downey City,” an area with a favorable climate, fertile soil, and abundant water sources.

In April of 1874, the people of Downey City heard the first whistle of a Southern Pacific train lumbering into town. The extension of the Southern Pacific Railroad through Downey played a pivotal role in bringing people throughout the country to the city to reap the potential business and agricultural benefits of the land. Plots of land were sold at a quick pace, and a bustling business center was created at the northwest corner of Crawford and Front Streets (Downey Avenue and Firestone Boulevard).

At the beginning of the twentieth century, many Downey pioneers had achieved success in business and politics within the city and the surrounding Los Angeles County. The downtown Downey area contained a Sunkist packing plant, a department store, banks, restaurants, and mercantile shops. The area remained largely agrarian until the development of the local aircraft industry, including missile development and space exploration (Speakman 2018), during the post-World War II years, with light industry and tract homes replacing orange groves. The city was incorporated on December 17, 1956 (Thompson 2019) and was one of the first suburban “planned communities” with quality homes, schools, and retail centers.

Today, Downey is an ideal home base from which to take advantage of the business resources and cultural activities offered in Southern California. Of the 750-plus retail stores, approximately 100 are located in the central business district, 90 are in Stonewood Shopping Center, and the remainder are distributed throughout more than 35 neighborhood centers.

RECORDS SEARCH AND FIELD SURVEY RESULTS

The author conducted an in-person records and literature search at the office of the South Central Cultural Information Center (SCCIC) in order to determine whether the project area had been previously surveyed for cultural resource and whether any significant prehistoric or historic properties were present within or adjacent to the area. Part of this research was a review of the various historic inventories, federal, state, and local. The study used a half-mile radius from the central point of the project area (mid-point of the intersection of Imperial Highway and Paramount Boulevard) in the City of Downey as the study boundaries.

The results were that the project area had not been previously surveyed for cultural resources. Six studies had been carried out within the study area but did not result in the recording of cultural resources.

A search of the National Register of Historic Places (NRHP) revealed two listings in the City of Downey: Rives Mansion, 10921 S. Paramount Boulevard, Prime No. 19-177345; and Casa de Parley Johnson 7749 Florence Avenue, Prime No. 19-177347. A third property, McDonald’s #3, 10207 Lakewood Boulevard, Prime No. 19-177349, is NRHP eligible but is not listed at owner’s request;. It is listed on the California Register of Historical Resources (CRHR). None of the three historic properties is located within or adjacent to the project area.

The field survey consisted of a review of Google maps for the area. This review revealed that 13 buildings were present. By using their street addresses the author checked the NRHP listings to determine if any were included. None were listed or were eligible for listing. Thus the field survey did not reveal any significant historic properties within the project area.

CONCLUSIONS AND RECOMMENDATIONS

No cultural resources have been recorded within or adjacent to the project area. Three significant historic properties are present within the City of Downey, but none will be impacted by the proposed project. Thus no impacts to significant cultural resources are predicted by the proposed project. No additional research is recommended.

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Appendix C – Noise Impact Analysis

NOISE IMPACT ANALYSIS
INTERSECTION OF IMPERIAL HIGHWAY AND PARAMOUNT BOULEVARD
IMPROVEMENT PROJECT

CITY OF DOWNEY, CALIFORNIA

Prepared for:

Hodge & Associates
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Date:

January 24, 2020

Project No.: P19-042 N

NOISE SETTING

NOISE DESCRIPTORS

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is generally defined as unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound wave. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level.

The unit of sound pressure ratioed to the lowest sound level detectable by a young person with good auditory acuity is called a decibel (dB). Because sound or noise can vary in intensity by over one million times within the range of human hearing, decibels are a logarithmic progression used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, noise levels at maximum human sensitivity are factored more heavily into sound descriptions in a process called "A-weighting" written as dBA. Any further reference to decibels written as "dB" should be understood to be A-weighted.

Time variations in noise exposure are normally expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called Leq), or, alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. Finally, because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL).

NOISE STANDARDS

The State of California has established guidelines for acceptable community noise levels that are based upon the CNEL rating scale. The guidelines rank noise/land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable" noise levels for various land use types. The City of Downey has adopted the same exterior noise/land use compatibility guideline as that used by the State of California. The City of Downey noise/land use compatibility guidelines have been used as the surrounding jurisdiction that may be affected by the proposed project.

CNEL-based standards are used to make land use decisions as to the suitability of a given site for its intended use. They apply to those noise sources not amenable to local control such as on-road traffic, aircraft, trains, etc. Because cities cannot regulate the noise created by such sources, they control the types of land use or levels of mitigation required by the receiving property. These noise compatibility standards are shown in Table 1.

Table 1
Downey Land Use Compatibility Guidelines
for Exterior Community Noise

Land Use	Normally Acceptable	Community Noise Exposure CNEL, dB		Clearly Unacceptable
		Conditionally Acceptable	Normally Unacceptable	
Single Family, Duplex, Mobile Homes	50-60	55-70	70-75	Above 75
Multi-Family Homes	50-65	60-70	70-75	Above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-70	60-70	70-80	Above 80
Transient Lodging: Motels, Hotels	50-65	60-70	70-80	Above 80
Auditoriums, Concert Halls, Amphitheaters	-	50-70	-	Above 65
Sports Arena, Outdoor Spectator Sports	-	50-75	-	Above 70
Playgrounds, Neighborhood Parks	50-70	-	67-75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-75	-	70-80	Above 80
Office Buildings, Business and Professional Commercial	50-70	67-77	Above 75	-
Industrial, Manufacturing, Utilities, Agriculture	50-75	70-80	Above 75	-

Normally Acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: Downey General Plan

The noise/land use compatibility standards consider exterior exposures up to 60 dBA CNEL “normally acceptable” for single-family residential use and 65 dB CNEL is acceptable for multi-family use, with exposures of up to 70 dB “conditionally acceptable”. Commercial use buildings are considered “normally acceptable” with exposures of 70 dB CNEL as well, though they are allowed a 77 dB threshold for “conditionally acceptable”. “Conditionally acceptable” requires closed windows and fresh air supply systems or air conditioning. Although the Noise Element considers noise exposures in excess of 60 dB CNEL to be compatible with residential uses under some circumstances, Noise Goal One of the Noise Element states that the City’s exterior noise standard shall be 60 dB CNEL for all sensitive land uses.

Exterior standards apply to normally used recreational exterior space (patio, porch, pool/spa, etc.). They are also a guide to likely interior noise exposure based on the structural attenuation normally achievable with various types of construction.

The Downey General Plan specifies 45 dB CNEL as the residential interior noise standard. Since normal noise attenuation within residential structures with closed windows is about 20 dB, an exterior noise exposure of 65 dBA CNEL for exterior would provide an interior 45 dBA CNEL. Nevertheless, a 60 dBA CNEL for exterior residential use was used for this study as specified by the Downey General Plan Policy (6.1.3).

CNEL-based standards are the land use planning standards that are applied to noise sources for which the City of Downey is pre-empted from exercising local control. These sources include on road traffic and train noise. Those noise sources that are amenable to local control are regulated by the City of Downey Municipal Code (4606.4). The ordinance establishes allowable levels of sound that may cross any adjacent property line, as well as prohibiting general nuisance noise and identifying a number of specific prohibitions.

The Ordinance also states that if any parcel of real estate is developed and used for multiple land uses, the lower land use noise level standard shall apply (4606.4C). The Code at Section 4606.3(a) specifies that an increase of +5 dB(A) at the property line of a receiving property is evidence of a nuisance. If the alleged source is continuous and cannot be reasonably discontinued, Section 4606.3(b) limits the noise at the property line of the transmitting property to the standards below:

Land Use	Time Period	Maximum Permissible Steady Noise Levels (dB)
Exterior Residential Uses	7 a.m. – 10 p.m.	55
	10 p.m. – 7 a.m.	45
Exterior Commercial Uses	7 a.m. – 10 p.m.	65
	10 p.m. – 7 a.m.	65
Exterior Manufacturing Uses	7 a.m. – 10 p.m.	70
	10 p.m. – 7 a.m.	70

In the hours between 7 a.m. to 10 p.m., the noise levels permitted above may be adjusted by the inclusion of the following factors when applicable:

1. Noise source operated 12 minutes per hour or less +5 dB(A)
2. Noise source operated 3 minutes per hour or less +10 dB(A)
3. Noise source operated 1 minutes per hour or less +15 dB(A)

Construction projects shall be exempted from the above noise provisions provided a valid permit for such construction is obtained from the City. No construction is to take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day and no repair or remodeling shall exceed 85 dB across any property boundary at any time during the source of a 24-hour day (4606.5).

BASELINE NOISE CONDITIONS

Noise measurements were made in order to document existing baseline levels in the area. These help to serve as a basis for projecting future noise exposure, both from projects upon the surrounding community and from ambient noise activity upon the proposed project. A short-term on-site noise measurement was conducted on Tuesday December 10, 2019, from 1:30 p.m. to 2:30 p.m., at three locations surrounding the project site. The results of the measurements are shown below. A map showing the location of the monitors is shown in Figure 1.

Downey Short-Term Noise Measurements (dB[A])

Site	Time		Leq	Lmax	Lmin	L50
1	1:35-1:50 PM	By Donut Shop	74	84	61	72
2	1:56-2:11 PM	Apartments NW of Imperial/Paramount	69	76	58	67
3	2:15-2:30 PM	Burger King Parking Lot	65	70	58	62

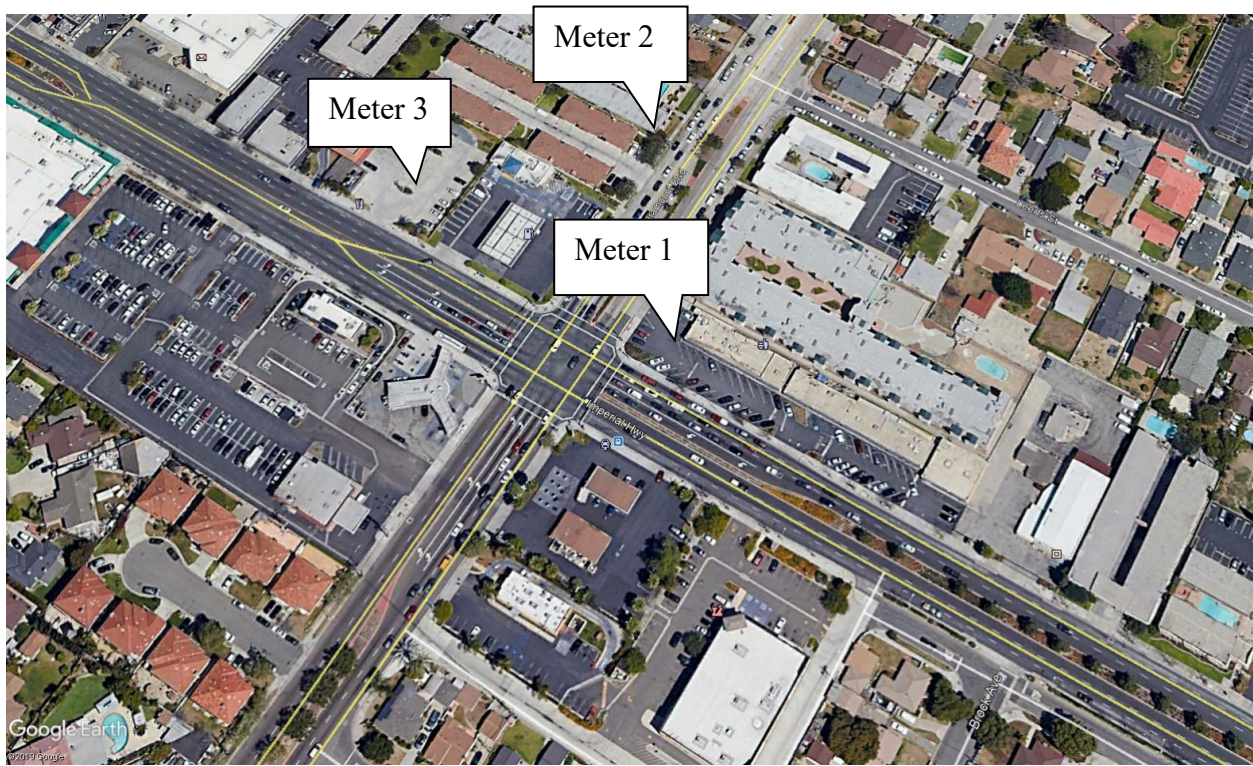
Noise readings observed by the Donut Shop, located 70-feet east of Paramount Boulevard and 120-feet north of Imperial Highway demonstrated the highest noise reading of the three monitored sites. The elevated noise level is believed to be from trucks and cars shifting gear to try to get through the red light or stop at the light. The location of this monitor captured traffic noise both from the Paramount and Imperial roadways.

The observed noise levels of the condos at 12533 Paramount Blvd (NW of the intersection) provided the second highest noise readings. The monitor for this site was located only 50-feet from the Paramount Boulevard centerline and 300-feet north of the Imperial Highway centerline.

The quietest location was in the Burger King parking lot. This meter was placed 250-feet west of the Paramount Boulevard centerline and 130-feet north of the Imperial Highway centerline.

Figure 1

Noise Meter Locations



LAND USE NOISE IMPACTS

THRESHOLDS OF SIGNIFICANCE

According to the current CEQA Appendix G guidelines, noise impacts are considered potentially significant if they cause:

- a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. Noise levels exceeding the City of Downey Noise Standards would be considered significant.
- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

CEQA Guidelines also identify potential impact significance due to aircraft noise. There are no airports within any reasonable noise impact distance from the proposed project area.

The term "substantial increase" is not defined by any responsible agency. The limits of perceptibility by ambient grade instrumentation (sound meters) or by humans in a laboratory environment is around 1.5 dB. Under ambient conditions, people generally do not perceive that noise has clearly changed until there is a 3 dB difference. A threshold of 3 dB is commonly used to define "substantial increase." An increase of +3 dBA CNEL in traffic noise would be consistent a significant impact.

Two characteristic noise sources are typically identified with roadway improvements such as that proposed for the development of the Paramount Boulevard and Imperial Highway Intersection improvements. Construction activities, especially heavy equipment, will create short-term noise increases near the project site. Such impacts may be important for nearby noise-sensitive receptors such as any existing residential uses. Upon completion, project-related traffic could cause an incremental increase in area-wide noise levels throughout the project area. For this project, traffic noise impacts are analyzed to ensure that the project not adversely impact the acoustic environment of the surrounding community.

Sensitive Uses

Several roadway segments have existing adjacent sensitive residential uses as follows:

North of Intersection

12533 Paramount Blvd SFR Condo (2 buildings)	40' from work limit, 21' from TCE
12542 Paramount Blvd, Aspen Place Apts	62' from work limit
12527 Paramount Blvd Athens Apts	26' from work limit

East of Intersection (does not directly front construction but is close to the construction limit)

12603 Block Ave SFR	100' from work limit
---------------------	----------------------

South of Intersection

12620 Paramount Blvd SFR	65' from work limit
7957 Lyndora St SFR	52' from work limit

West of Intersection

No adjacent sensitive uses

TCE=Temporary Construction Easement

CONSTRUCTION NOISE IMPACTS

Construction noise levels would vary at any given receptor depending on the construction phase, equipment type, duration of use, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. For this analysis, construction noise levels were estimated for proposed daytime construction.

The construction noise analysis shows that the nearby sensitive residential receivers will likely experience a temporary/periodic increase above ambient noise levels. Construction noise is unavoidable though noise would be temporary and limited to the duration of the construction in any one location. These temporary impacts will cease once each section of roadway is completed. Roadway projects are considered “linear” as they are only in a single area for a brief time period and move as work continues down the alignment.

Quantitatively, the primary noise prediction equation is expressed as follows for the hourly average noise level (L_{eq}) at distance D between the source and receiver (dBA):

$$L_{eq} = L_{max} @ 50' - 20 \log (D/50') + 10 \log (U.F\%/100) - I.L.(bar)$$

Where:

$L_{max} @ 50'$ is the published reference noise level at 50 feet

U.F.% is the usage factor for full power operation per hour

I.L.(bar) is the insertion loss for intervening barriers

Point sources of noise emissions are attenuated by a factor of 6 dB per doubling of distance through geometrical (spherical) spreading of sound waves. Table 2 shows the probable

equipment fleet for this project and identifies highest (Lmax) noise levels associated with each type of equipment identified for use, then adjusts this noise level for distance to the closest sensitive receptors and the extent of equipment usage (usage factor), which is represented as Leq. A 50-foot reference distance is used.

Table 2
Construction Equipment Noise Levels

Phase Name and Duration	Equipment	Usage Factor	Reference Noise Level @ 50 feet (dB)	Cumulative Noise Level @ 50 feet (dB)
Demo	Concrete Saw	20%	90	84
	Dozer	40%	85	82
	Loader/Backhoe	37%	78	74
Grading	Grader	40%	85	81
	Dozer	40%	85	82
	Loader/Backhoe	37%	78	74
Underground Utilities	Crane	16%	81	73
	Welder	46%	74	71
	Forklift	20%	75	69
Paving and Median Construction	Mixer	40%	79	75
	Paver	50%	77	74
	Paving Equipment	40%	76	72
	Roller	20%	80	74
	Loader/Backhoe	37%	78	74

The closest sensitive use to any construction area is the Athens Apartments at 12527 Paramount Blvd. The closest of these units have a 26-foot setback from the closest construction limit. At this distance, a concrete saw would be the loudest equipment and units closest to the work could experience noise levels of up to 90 dB Leq when equipment operates at the closest perimeter. All other construction equipment is minimally 2 dB less noisy.

The maximal noise levels are limited to the time it takes to remove pavement adjacent to any residence. The interval would be brief and would affect a given sensitive receptor for only a short period of time. The progress rate for the roadway work is approximately 10 feet per day for a 6-month construction schedule and therefore the noisiest construction activities will only be in immediate proximity to any single receptor for a few days.

Although noise levels will be noticeable at times, these exceedances would be sporadic (not continuous) in nature, limited in duration, and would occur only when equipment is typically operated within 25 feet of a given receptor. There is only one receptor at 12527 Paramount Blvd which would be within 25 feet. All other sensitive receptors have a minimal 40-foot setback. By 40 feet, construction noise is reduced to below 85 dB Leq.

Additionally, activities are limited to daytime hours when most people are away. Since all other noise-sensitive receptors are located farther from the project site, or equipment would be less noisy, the project's other construction-related noise levels would be even lower.

The City of Downey limits construction noise levels of 85 dB at any sensitive use property line. Because the project is a roadway alignment, no single piece of equipment will operate in front of any use for a substantial period of time.

The Downey Noise Ordinance states that no construction is to take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day and no repair or remodeling shall exceed 85 dB across any property boundary at any time during the course of a 24-hour day.

CONSTRUCTION ACTIVITY VIBRATION

Project-related pavement cutting, excavation and construction activities has the potential to result in vibration that could disturb nearby residents and/or cause cosmetic damage to existing adjacent buildings or structures.

Ground-borne vibration occurs when heavy equipment travels over unpaved surfaces or when it is engaged in soil movement. The effects of ground-borne vibration include discernable movement of building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. Vibration related problems generally occur due to resonances in the structural components of a building because structures amplify groundborne vibration. Within the “soft” sedimentary surfaces of much of Southern California, ground vibration is quickly damped out. Groundborne vibration is almost never annoying to people who are outdoors (FTA 2006).

Groundborne vibrations from construction activities rarely reach levels that can damage structures. Because vibration is typically not an issue, very few jurisdictions have adopted vibration significance thresholds. Vibration thresholds have been adopted for major public works construction projects, but these relate mostly to structural protection (cracking foundations or stucco) rather than to human annoyance.

The vibration descriptor commonly used to determine structural damage is the peak particle velocity (ppv) which is defined as the maximum instantaneous positive or negative peak of the vibration signal, usually measured in in/sec. The range of such vibration is as follows in Table 3:

Table 3
Human Response To Transient Vibration

Average Human Response	ppv (in/sec)
Severe	2.0
Strongly perceptible	0.9
Distinctly perceptible	0.2
Barely perceptible	0.0

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2013

Over the years, numerous vibration criteria and standards have been suggested by researchers, organizations, and governmental agencies. There are no Caltrans or Federal Highway Administration standards for vibration.

According to Caltrans, the threshold for structural vibration damage for modern structures is 0.5 in/sec for intermittent sources, which include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. The American Association of State Highway and Transportation Officials (AASHTO) (1990) identifies maximum vibration levels for preventing damage to structures from intermittent construction or maintenance activities for residential buildings in good repair with gypsum board walls to be 0.4–0.5 in/sec. The damage threshold criterion of 0.2 in/sec is appropriate for fragile buildings. For the purpose of this analysis because adjacent residences can be older, the 0.2 in/sec damage threshold for older fragile buildings is used as a very conservative evaluation criteria. Below this level there is virtually no risk of building damage. Table 4 shows the predicted vibration levels generated by construction equipment.

Table 4
Estimated Vibration Levels During Project Construction

Equipment	PPV at 25 ft (in/sec)	PPV at 50 ft (in/sec)	PPV at 75 ft (in/sec)	PPV at 100 ft (in/sec)
Large Bulldozer	0.089	0.031	0.017	0.011
Loaded trucks	0.076	0.027	0.015	0.010
Jackhammer	0.035	0.012	0.007	0.004
Small Bulldozer	0.003	0.001	0.001	<0.001

Source: FHWA Transit Noise and Vibration Impact Assessment

The calculation to determine PPV at a given distance is:

$$\text{PPV}_{\text{distance}} = \text{PPV}_{\text{ref}} * (25/D)^{1.5}$$

Where:

PPV_{distance} = the peak particle velocity in inches/second of the equipment adjusted for distance,

PPV_{ref} = the reference vibration level in inches/second at 25 feet, and

D = the distance from the equipment to the receiver.

The closest sensitive uses adjacent to the project alignment have a minimal 25-foot separation distance. Because the construction envelope is small, it is unlikely that a large bulldozer will be used. A small bulldozer creates much lower vibration levels.

As seen on Table 4, at the closest setback of 25-feet the vibration levels are well below levels that could create structural damage in fragile buildings (i.e., 0.2 in/sec). Vibration levels will be below the human perception threshold and far below any possible cosmetic damage level.

PROJECT-RELATED VEHICULAR NOISE IMPACTS

Long-term noise concerns from the change in traffic in the project vicinity. This concern was addressed using the California specific vehicle noise curves (CALVENO) in the federal roadway

noise model (the FHWA Highway Traffic Noise Prediction Model, FHWA-RD-77-108). The model calculates the Leq noise level for a particular reference set of input conditions, and then makes a series of adjustments for site-specific traffic volumes, distances, speeds, or noise barriers.

This analysis evaluates the change between existing noise levels “with” and “without” project at the Imperial Highway and Paramount Boulevard intersection. Two-time frames are evaluated. Existing conditions “with” and “without” project, and year 2035 “with” and “without” project. As shown in Table 5, the noise levels for the with and without project implementation scenario is identical. The project is growth accommodating rather than growth inducing. The number of vehicles utilizing the intersection stay the same for both the “with” and “without” project conditions. Although the wait time for vehicles will be lower, there is no mechanism to quantify any associated benefits. Therefore, the project will not create any traffic noise increases and qualitatively could slightly lower noise levels.

Table 5
Paramount Blvd Median Improvement Project
Traffic Noise Impact Analysis

(dBA CNEL at 50 feet from centerline)

Segment		Existing No Project	Existing w Project	Change?
Paramount Blvd/	N of Imperial	70.2	70.2	no
	S of Imperial	69.8	69.8	no
Imperial Hwy/	W of Paramount	71.5	71.5	no
	E of Paramount	71.2	71.2	no

(dBA CNEL at 50 feet from centerline)

Segment		2035 No Project	2035 w Project	Change?
Paramount Blvd/	N of Imperial	70.5	70.5	no
	S of Imperial	70.0	70.0	no
Imperial Hwy/	W of Paramount	71.8	71.8	no
	E of Paramount	71.5	71.5	no

SUMMARY

Construction activities from project development may temporarily impact existing surrounding residential uses. Such impacts are primarily onsite and are mitigated by required compliance with grading/construction permits. These considerations include:

- No construction is to take place between the hours of 9:00 p.m. of one day and 7:00 a.m. of the following day and no repair or remodeling shall exceed 85 dB across any property boundary at any time during the source of a 24-hour day.
- Staging areas shall be located away from existing residences.
- All construction equipment shall use properly operating mufflers.

Project-related off-site traffic noise changes on existing streets will not substantially alter the existing and forecasted noise environment. Traffic noise impact analyzed at a “with-project” versus “no-project” condition shows project-related noise is not individually significant.

Construction vibration is not expected to create a significant impact.

**Appendix D –
Mitigation Monitoring and Reporting Program Summary**

City of Downey
Paramount Boulevard/Imperial Highway Intersection Project
DRAFT Mitigation Monitoring and Reporting Program Summary

No.	Mitigation Measures	Implementation Action	Method of Verification	Timing of Verification	Responsible Person	Verification Date
Air Quality						
MM-AQ-1	Fugitive Dust Control. Implement the following mitigation measures during Project construction for dust emissions control: <ul style="list-style-type: none"> • Apply soil stabilizers or moisten inactive areas. • Prepare a high wind dust control plan. • Address previously disturbed areas if subsequent construction is delayed. • Water exposed surfaces as needed to avoid visible dust leaving the construction site (typically 2 to 3 times per day). • Cover all stock piles with tarps at the end of each day or as needed. • Provide water spray during loading and unloading of earthen materials. • Minimize in/out traffic from construction zone. • Cover all trucks hauling dirt, sand, or loose material and require all trucks to maintain at least 2 feet of freeboard. • Sweep streets daily if visible soil material is carried out from the construction site. 	Condition of Approval	Field inspections as necessary	Prior to Issuance of Building Permit	Public Works Dept.	
MM-AQ-2	Exhaust Emissions Control. Implement the following mitigation measures during Project construction for exhaust emissions control: <ul style="list-style-type: none"> • Utilize well-tuned off-road construction equipment. • Establish a preference for contractors using Tier 3 or better heavy equipment. • Enforce 5-minute idling limits for both on-road trucks and off-road equipment. 	Condition of Approval	Field inspections as necessary	During construction activities	Public Works Dept.	

Initial Study/Mitigated Negative Declaration
Paramount Boulevard/Imperial Highway Intersection Improvement Project

No.	Mitigation Measures	Implementation Action	Method of Verification	Timing of Verification	Responsible Person	Verification Date
Hazards and Hazardous Materials						
MM-HAZ-1	Hazmat Storage. During the Project the applicant shall ensure that grading and street improvement plans include the following measures and that the measures shall be followed by the construction contractor and crew: a) the storage of hazardous materials, chemicals, fuels, and oils and fueling of construction equipment shall be a minimum of 45 meters (150 feet) from any drainage, water supply, or other water features; b) hazardous materials stored on-site shall be stored in a neat, orderly manner in appropriate containers and, if possible, under a roof or other enclosure; c) whenever possible, all of a product shall be used up before disposal of its container; d) if surplus product must be disposed of, the manufacturer's or the local and state recommended methods for disposal shall be followed; e) spills shall be contained and cleaned up immediately after discovery. Manufacturer's methods for spill cleanup of a material shall be followed as described on the Material Safety Data Sheets (MSDS) for each product.	Condition of Approval	Plan Check	Prior to grading activities	Public Works Dept.	
Hydrology and Water Quality						
MM-HYD-1	Prior to construction activities, a Storm Water Pollution Prevention Plan (SWPPP) and Water Quality Management Plan (WQMP) will be prepared to the requirements of the City of Downey Municipal Code and State Regional Water Quality Control Board's Basin Plan.	Condition of Approval	Plan Check & Site inspection	During and after project construction	Public Works Dept.	
Noise						
MM-N-1	Construction is only permitted to take place between the hours of 7:00 a.m. and 8:00 p.m. on Monday through Saturday. All construction equipment shall use properly operating mufflers.	Condition of Approval	Field inspections as necessary	During construction activities	Public Works Dept.	